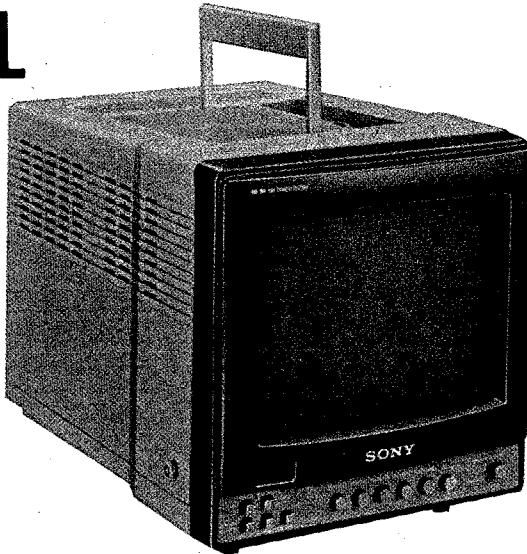


# PVM-9020ME

## SERVICE MANUAL

AEP Model

Chassis No. SCC-640A-A



May, 1985

### SPECIFICATIONS

Color system	PAL and SECAM systems, switched automatically
Picture tube	Microblack Trinitron tube Approx. 195 mm (9 inches) (Approx. 221 mm picture measured diagonally) 70-degree deflection
Resolution	230 TV lines (B/W)
Color temperature	9300° K
Frequency response	4 MHz (-3 dB)
Horizontal linearity	± 8 %
Vertical linearity	± 8 %
Line pull range	Horizontal ± 500 Hz Vertical 8 Hz
Overscan of the picture	6 %
Underscan of the picture	5 %
H/V delay	Horizontal: Approx. 1/4 line Vertical: Approx. 1/2 line
Return loss	5 MHz, -30 dB (INPUT A, INPUT B)
Zooming	Within 3 %
Convergence	Central area 0.5 mm Periphery 0.7 mm
Brightness	More than 50 foot-lamberts

Inputs	VIDEO IN (INPUT A): BNC connector VIDEO (INPUT B): BNC connector Composite 1 V p-p ±6 dB, 75 ohms, unbalanced, sync negative
	AUDIO IN (INPUT A): minijack AUDIO (INPUT B): minijack -5 dBs, 47 k ohms or more
Outputs	VIDEO OUT (INPUT A): BNC connector VIDEO (INPUT B): BNC connector 1 V p-p, 75 ohms, unbalanced, sync negative
	AUDIO OUT (INPUT A): minijack AUDIO (INPUT B): minijack Output level 0.8 W
TUNER connector	6-pin DIN connector Pin No. 1: not in use Pin No. 2: video input, composite 1 V p-p ±6 dB, 75 ohms, unbalanced, sync negative Pin No. 3: ground Pin No. 4: audio input, -5 dBs, 47 k ohms or more Pin No. 5: power output Pin No. 6: not in use

— Continued on next page —

TRINITRON®  
COLOR VIDEO MONITOR  
**SONY**®



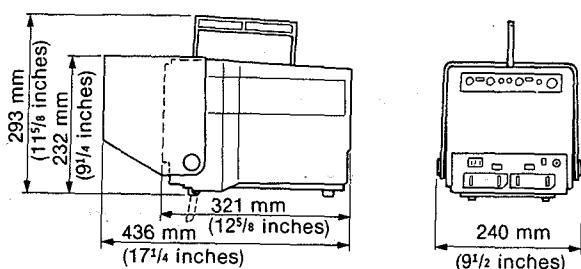
MICROFILM

**Power requirements**

220/240 V ac, 50/60 Hz  
12 V dc, with the optional Sony NP-1  
battery pack or 12 V car battery  
using the optional DCC-16AE car  
battery cord

**Power consumption**

48 W ac  
40 W dc

**Dimensions**

**Weight** Approx. 7.2 kg (15 lb 14 oz)  
not incl. accessories

**Accessories supplied**  
AC power cord (1)  
Hood (1)

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications. We would ask you to check with your appointed Sony dealer if clarification on any point is required.

**OPTIONAL ACCESSORIES**

TV tuner unit TU-1110E/UB  
Battery pack NP-1  
Car battery cord DCC-16AE

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

**SAFETY-RELATED COMPONENT WARNING !!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

**TABLE OF CONTENTS**

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>			
<b>1. GENERAL</b>								
1-1.	Features . . . . .	4	<b>4. DIAGRAMS</b>					
1-2.	Location and Function of Controls. . . . .	5	4-1.	Circuit Boards Location . . . . .	27			
1-3.	Power Sources . . . . .	8	4-2.	Block Diagram . . . . .	27			
1-4.	System Connections. . . . .	9	4-3.	Schematic Diagram . . . . .	31			
1-5.	Internal View . . . . .	10	4-4.	Waveforms . . . . .	39			
<b>2. DISASSEMBLY AND REPLACEMENT</b>								
2-1.	Cabinet Removal. . . . .	11	4-5.	Printed Wiring Boards. . . . .	41			
2-2.	Bezel Removal (HA, HB, XA Board) . . . . .	11	BA Board. . . . .	41				
2-3.	Cabinet Bottom Removal . . . . .	12	C and HB Boards. . . . .	42				
2-4.	DA Board Removal . . . . .	13	DA Board . . . . .	43				
2-5.	BA, BB Board Removal . . . . .	13	DC and DD Boards . . . . .	44				
2-6.	Picture Tube Removal . . . . .	14	FB Board . . . . .	45				
2-7.	Replacing FBT . . . . .	14	FC, FA and XA Boards . . . . .	46				
<b>3. ADJUSTMENTS</b>								
3-1.	Setup Adjustments . . . . .	15	BB and Q Boards . . . . .	47				
3-2.	Circuit Adjustments . . . . .	18	DB and HA Boards . . . . .	48				
3-2-1.	BB Board Adjustments . . . . .	19	4-6. Semiconductors . . . . .	49				
3-2-2.	HA Board Adjustments . . . . .	20	<b>5. EXPLODED VIEWS</b>					
3-2-3.	BA Board Adjustments . . . . .	21	5-1. Bezel, Cabinet. . . . .	50				
3-2-4.	DA and FB Boards Adjustments . . . . .	24	5-2. Bottom Cabinet . . . . .	51				
			5-3. Chassis . . . . .	52				
<b>6. ELECTRICAL PARTS LIST . . . . .</b>								

## SECTION 1 OUTLINE

### 1-1. FEATURES

#### **Microblack™ Trinitron® picture tube**

The Microblack Trinitron picture tube gives a high resolution, high contrast picture.

#### **PAL/SECAM broadcasting standard receivable**

The monitor can receive PAL and SECAM signals. The appropriate broadcasting standard is selected automatically.

#### **Push-to-lock controls**

In the locked position, the controls are protected from damage during carriage of the unit. The protruding position allows easier operation.

#### **Monitor of sync signals**

The HV-DELAY switch allows horizontal and vertical sync signals to be displayed on the screen.

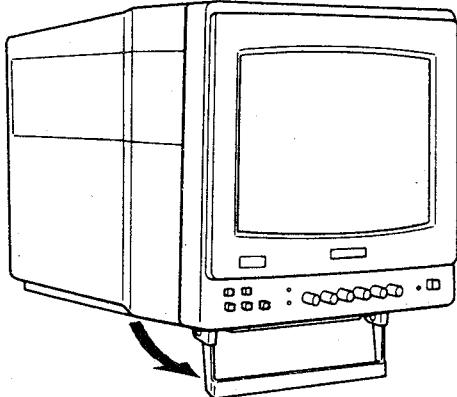
#### **Blue only picture**

By using the B-ONLY switch, the picture can be displayed in blue and black only, facilitating hue adjustment or observation of VTR noise.

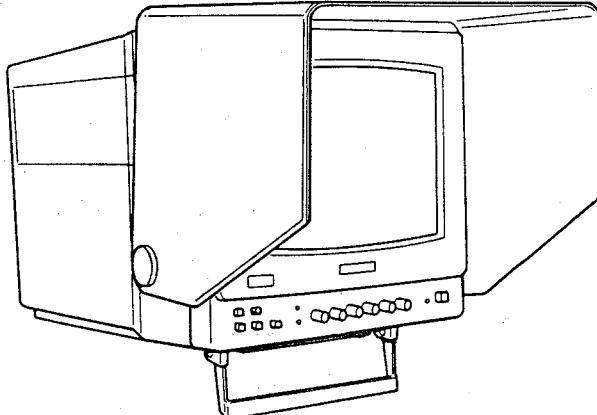
#### **Underscan mode**

The signal normally scanned outside of the screen can be monitored in underscan mode.

#### **Use on the stand**

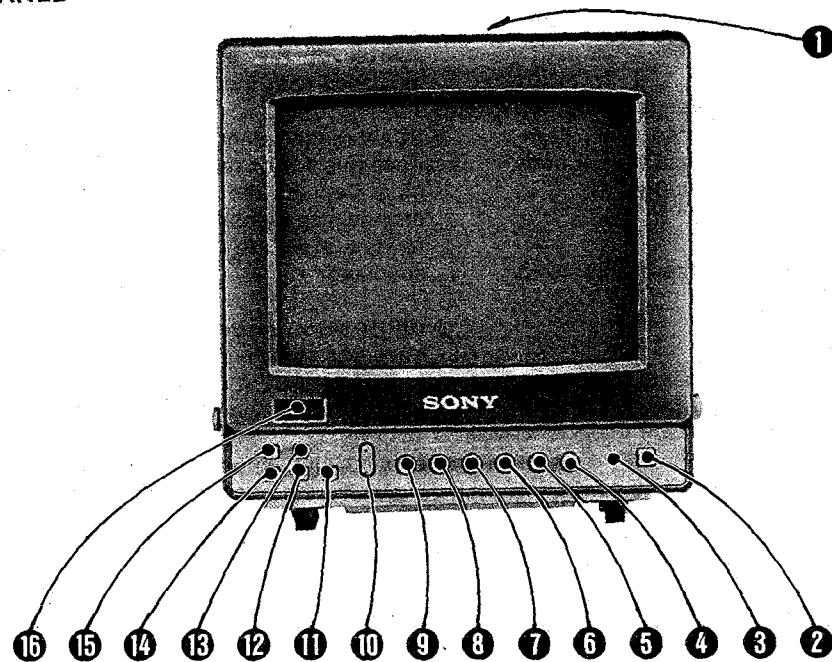


#### **Attaching the supplied hood**

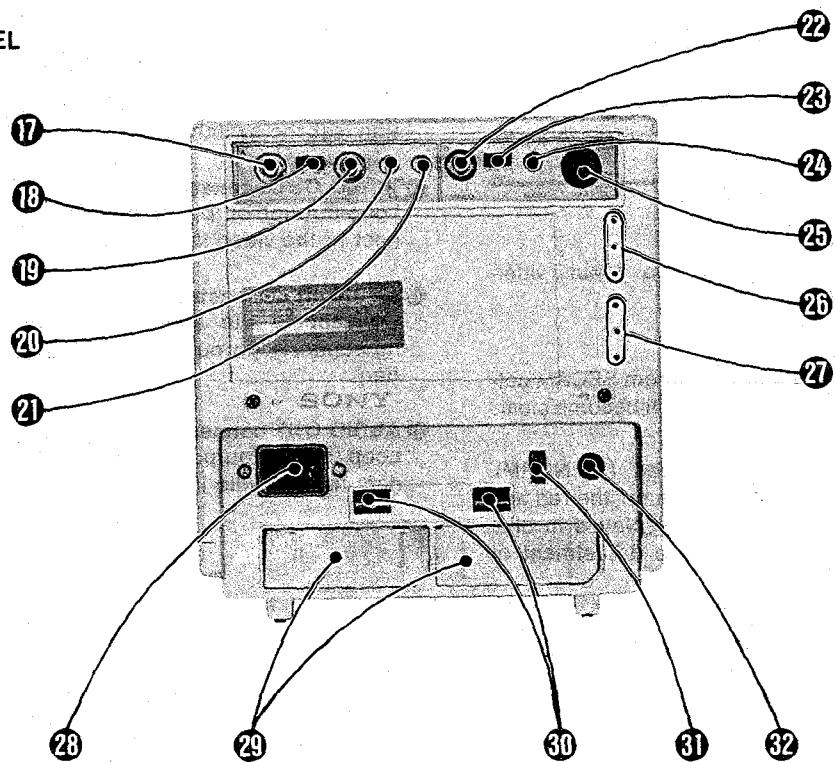


1-2. LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL



REAR PANEL



**① Carrying handle****② POWER switch**

To turn the monitor on, depress the POWER switch ( $\square$  ON). To turn it off, press the switch again ( $\square$  OFF).

**③ BATT (power/battery) indicator**

This indicator lights when the power is turned on. When the rechargeable battery becomes weak, the indicator flashes for about five minutes. Then it goes out, and the power is automatically turned off.

**④ VOL (volume) control**

Turn this control clockwise or counterclockwise to obtain the desired volume.

**⑤ PICTURE control**

Adjusts the contrast, intensity and brightness simultaneously in the proper ratio.

**⑥ BRIGHT (brightness) control**

Adjusts the brightness. Normally set this control at the center detent position.

**⑦ COLOR control**

Adjusts the color intensity of the picture. Clockwise rotation makes the picture more vivid; counterclockwise rotation makes it paler.

**⑧ SHARP (sharpness) control**

Adjusts the sharpness of the picture. Clockwise rotation makes the picture sharper; counterclockwise rotation makes it softer.

**⑨ V HOLD (vertical hold) control**

If the picture rolls vertically, correct it with this control.

Before turning one of the controls ④ to ⑨ for easier operation press on it to release the control to a protruding position.

**⑩ Color system indicators**

Indicate the color system of the input video signal: PAL or SECAM.

**⑪ SECAM switch**

Depress this switch when a picture from SECAM color sources is distorted. The picture will become clear.

**⑫ B-ONLY (blue only) switch**

Normally keep this switch released ( $\square$  NORM). Depress the switch ( $\square$  BLUE) to turn off the red and green beams. The picture will be displayed in blue and black only. This facilitates hue adjustment or observation of VTR noise.

**⑬ HV-DELAY switch**

Normally keep this switch released ( $\square$  NORM). To monitor the sync signals, depress the switch ( $\square$  H/V). The picture is shifted horizontally and vertically. The horizontal sync is displayed in left approximately one quarter of the screen and the vertical sync is displayed near the center of the screen.

**⑭ SCAN mode select switch**

Keep this switch released ( $\square$  NORM) for normal scanning. Depress the switch ( $\square$  UNDER) to reduce the display size by about 5% (underscanning mode) and to view a picture which does not appear in normal scanning.

**⑮ INPUT select switch**

Keep this switch released ( $\square$  A) to monitor the signal from the INPUT A connectors. Depress the switch ( $\square$  B) to monitor the signal from the INPUT B connectors.

**⑯ CHARGE indicator**

Lights during charging. When charging is complete, the indicator goes out.

**INPUT A (⑰ - ⑲)**

To monitor the input signals connected to these connectors, keep the INPUT select switch released ( $\square$  A).

**⑰ VIDEO IN connector (BNC type)**

Connect to the video output of video equipment, such as a VTR or a color video camera.

**⑱ 75 Ω termination switch**

When only the VIDEO IN connector is used (the VIDEO OUT connector is not used), set this switch to ON. When both the VIDEO IN and VIDEO OUT connectors are used together for a loop-through connection, set the switch to OFF.

**⑲ VIDEO OUT connector (BNC type)**

Loop-through output of the VIDEO IN connector. Connect to the video input of a VTR or another monitor.

**⑳ AUDIO IN connector (minijack)**

Connect to the audio output of a VTR or to a microphone (through a suitable microphone amplifier).

**㉑ AUDIO OUT connector (minijack)**

Loop-through output of the AUDIO IN connector. Connect to the audio input of a VTR or another monitor.

**INPUT B (22 - 23)**

To monitor the input signals to these connectors, depress the INPUT select switch (▲ B).

**22 VIDEO input/output connector (BNC type)**

Connect to the video output of a VTR or a color video camera.

When a TV tuner is connected to the TUNER connector and the  $75\Omega$  termination switch 23 is set to OFF, this connector can be used as a loop-through output of the TUNER connector. Connect to the video input of a VTR or another monitor.

**23  $75\Omega$  termination switch**

Normally set this switch to ON. When both the TUNER and VIDEO connectors are used together for a loop-through connection, set the switch to OFF.

**24 AUDIO input/output connector (minijack)**

Connect to the audio output of a VTR or to a microphone (through a suitable microphone amplifier).

When a TV tuner is connected to the TUNER connector and the  $75\Omega$  termination switch 23 is set to OFF, this connector can be used as a loop-through output of the TUNER connector. Connect to the audio input of a VTR or another monitor.

**25 TUNER connector (6-pin DIN)**

Connect to the 6-pin DIN connector of a TV tuner. The video and audio signals are supplied to the monitor and the power from the monitor is fed to the tuner using a single cable.

**Note**

The TUNER input and the VIDEO/AUDIO inputs 22, 24 cannot be used simultaneously. When connecting a TV tuner to the monitor, be sure to disconnect any input source equipment from the VIDEO and AUDIO connectors, or vice versa.

**26 R/G/B BKG (background) controls**

Used for adjusting the white balance of the background.

**27 R/G/B DRIVE controls**

Used for adjusting the white balance at the white peak.

**28 AC IN socket**

Connect the supplied ac power cord.

**29 Battery compartments**

Insert the NP-1 battery pack.

**30 EJECT buttons**

Press the EJECT button upwards to remove the battery pack.

**31 OPERATE/CHARGE select switch**

Normally set this switch to OPERATE. To charge the battery pack, set to CHARGE. The CHARGE indicator on the front panel lights. When charging is complete, the CHARGE indicator goes out; reset the switch to OPERATE.

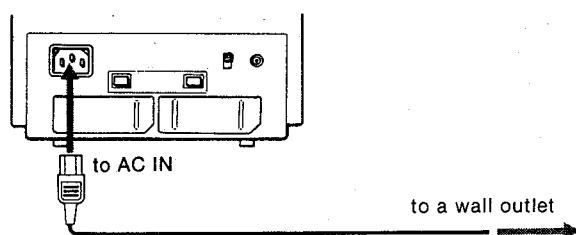
**32 EXT BATTERY (external battery) DC IN 12 V jack**

Connect the optional DCC-16AE car battery cord.

### 1-3. POWER SOURCES

#### HOUSE CURRENT

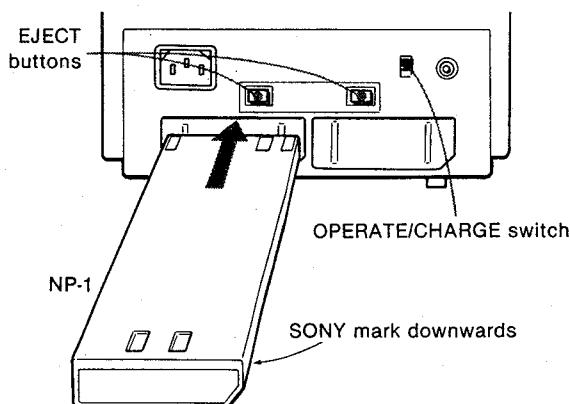
Connect the supplied ac power cord to the AC IN socket and to a wall outlet.



When the ac power cord is plugged into the AC IN socket, the battery pack (if installed) or the car battery (if connected) is automatically disconnected.

#### RECHARGEABLE BATTERY

Insert the Sony NP-1 battery pack (optional) into the battery compartment as illustrated. The monitor can operate with one or two battery packs. For extended use, two battery packs are recommended.



**To remove the battery pack,** press the EJECT button upwards.

##### Note

Make sure that the ac power cord and the car battery cord are disconnected from the monitor. Otherwise, the monitor cannot operate on the battery pack(s).

##### Charging the battery pack

Before using the monitor, be sure to fully charge the battery pack. The charging time is about 6 hours at normal temperatures.

- 1 Connect the supplied ac power cord to the AC IN socket and then to a wall outlet.
- 2 Insert the battery pack(s) into the battery compartment(s).

3 Set the OPERATE/CHARGE switch to CHARGE.

4 Depress the POWER switch. The CHARGE indicator lights and charging begins.

When charging is complete, the CHARGE indicator goes out. Be sure to reset the OPERATE/CHARGE switch to OPERATE.

When the OPERATE/CHARGE switch is set to CHARGE, the picture cannot be monitored.

● For quicker charging, use the optional BC-1WA battery charger for NP-1.

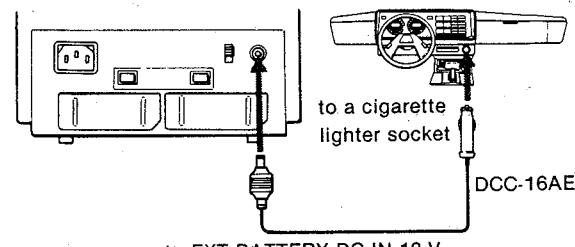
##### Battery life

At normal temperatures, the picture can be monitored continuously for about 60 minutes using two battery packs and operating the TV tuner connected to the monitor. When the TV tuner is not used, longer battery life can be expected (about 75 to 80 minutes).

When the battery is exhausted, the green BATT indicator flashes for about five minutes, and then the power is turned off automatically to prevent excessive battery discharge. When the BATT indicator goes off, press the POWER switch and replace the exhausted battery pack(s) with fully charged one(s), or use another power source.

#### CAR BATTERY

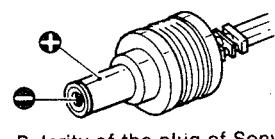
Use the Sony DCC-16AE car battery cord (optional) for a 12 V car battery. Connect the car battery cord to the EXT BATTERY DC IN 12 V jack and to the cigarette lighter socket of a car. For further details, read the instruction manual of the car battery cord.



When the car battery cord is plugged into the EXT BATTERY DC IN 12 V jack, the battery pack (if installed) is disconnected automatically.

##### Note

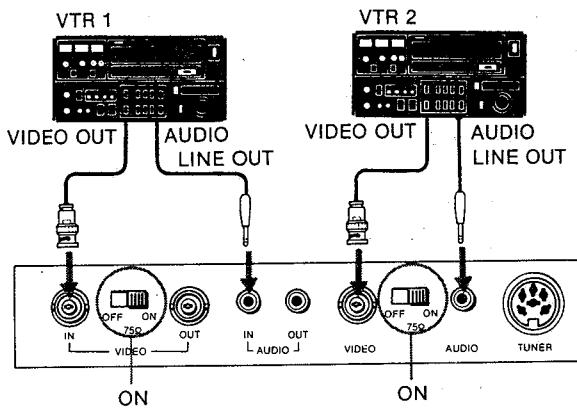
If a car battery cord not manufactured by Sony is used, a fuse must be installed in the car battery cord and the polarity of the plug must be as illustrated.



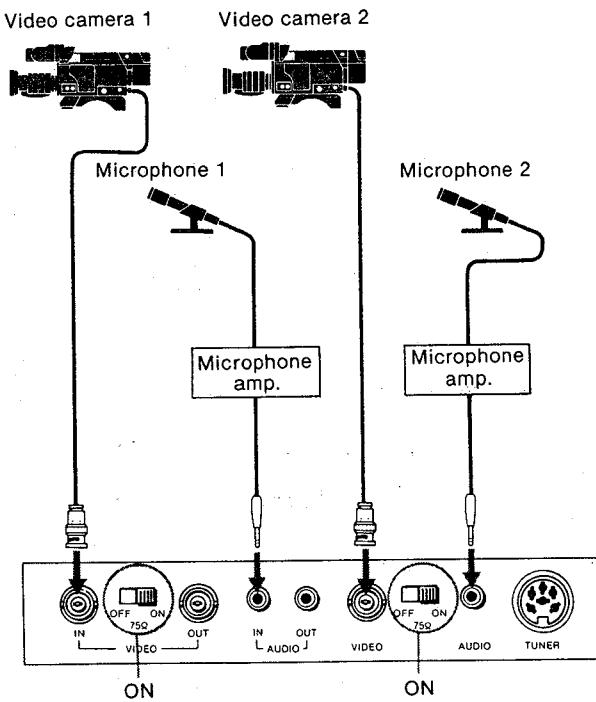
Polarity of the plug of Sony car battery cord

#### 1-4. SYSTEM CONNECTIONS

##### CONNECTING A VTR

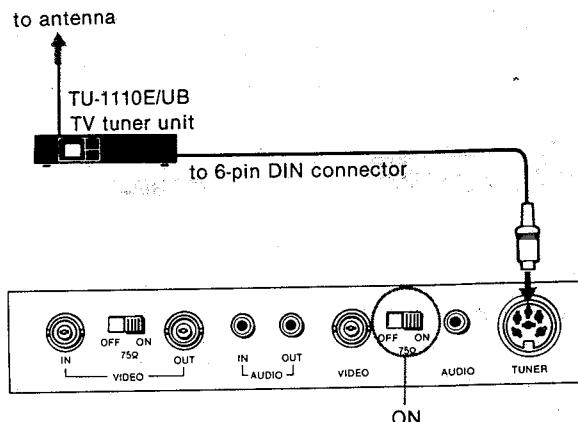


##### CONNECTING A CAMERA AND A MICROPHONE



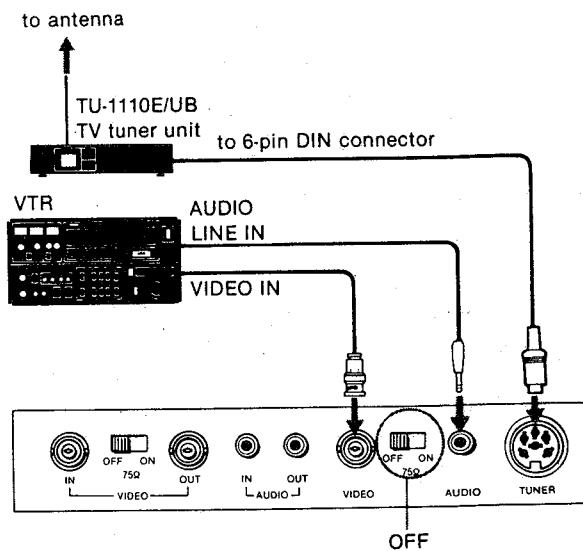
##### CONNECTING A TV TUNER

The Sony TU-1110E/UB TV tuner unit, which is equipped with a 6-pin DIN connector, can be connected to the monitor.



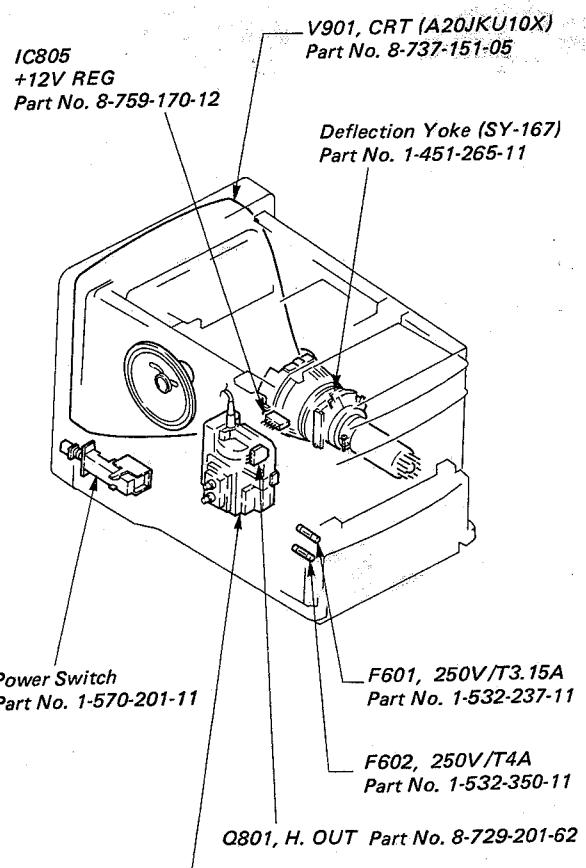
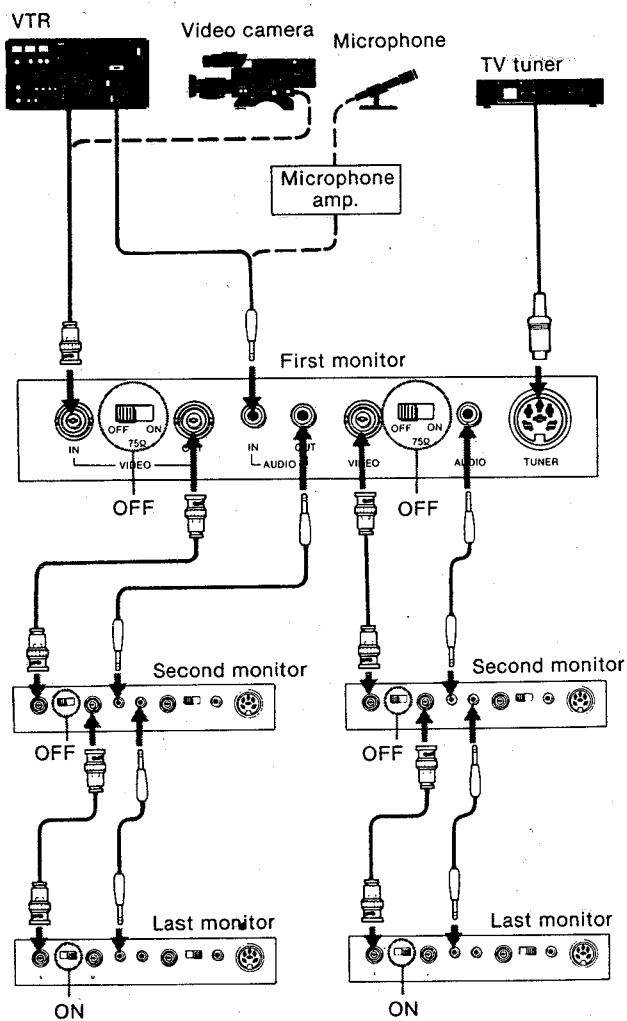
##### CONNECTING A TV TUNER AND A VTR

The VIDEO and AUDIO connectors of INPUT B can be used as loop-through outputs of the TUNER connector. By making the following connection, TV programs received by the TV tuner can be recorded on a VTR while monitoring the picture.



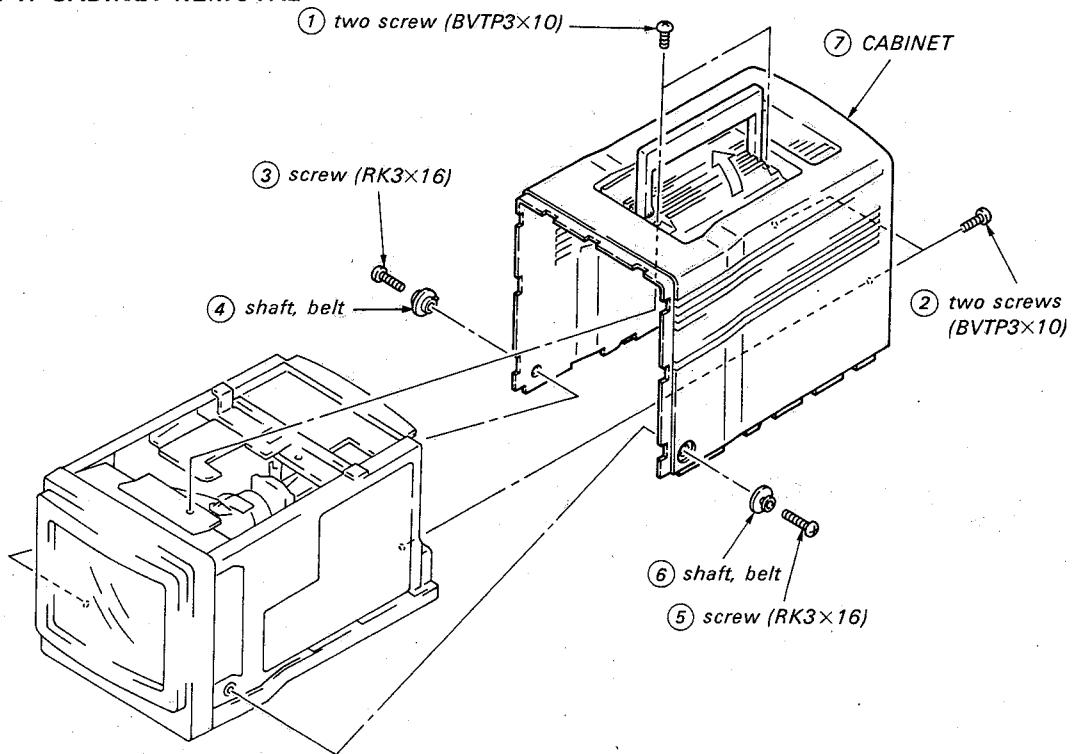
## 1-5. INTERNAL VIEW

The loop-through connection is convenient for monitoring the same signal on several monitors. Use the VIDEO OUT and AUDIO OUT connectors of INPUT A, and for the TV tuner, use the VIDEO and AUDIO connectors of INPUT B. Up to 10 monitors can be connected for each group. Set the  $75\Omega$  termination switch of the last monitor to ON and those of the other monitors to OFF.

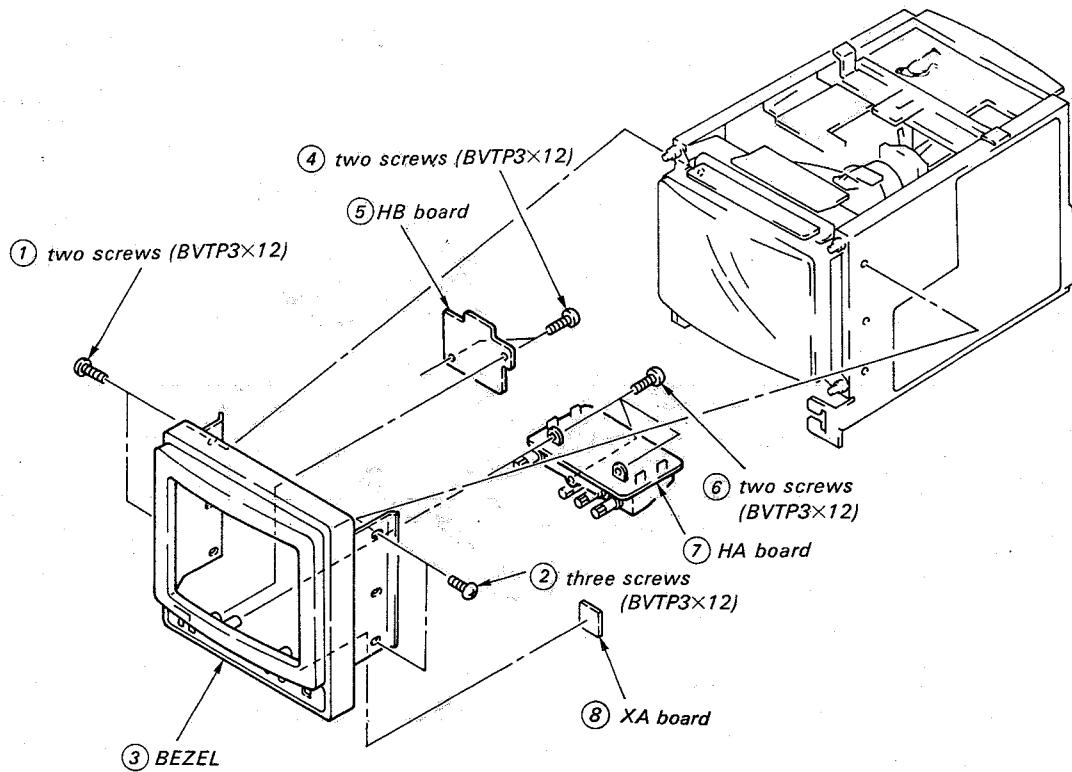


## SECTION 2 DISASSEMBLY AND REPLACEMENT

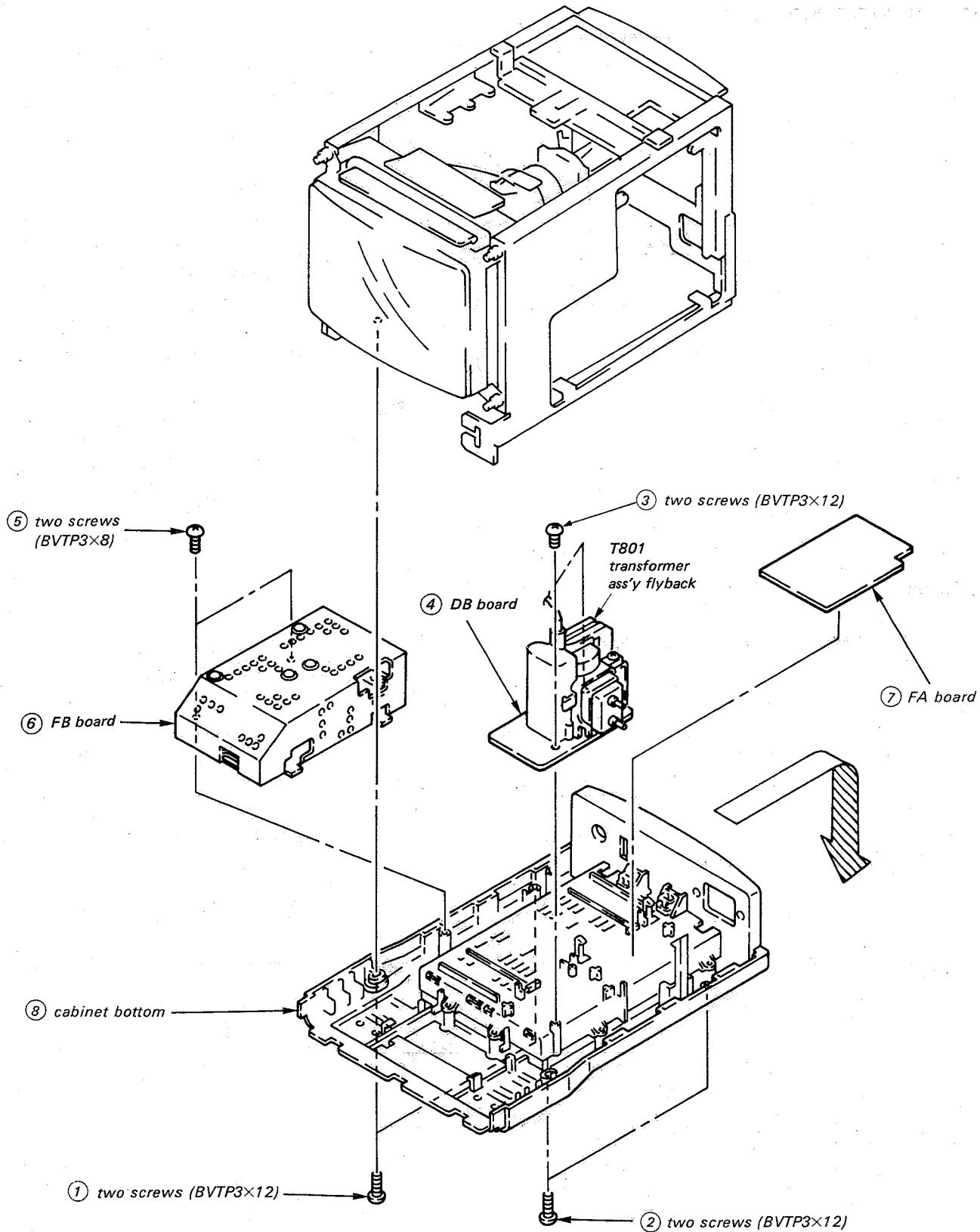
### 2-1. CABINET REMOVAL

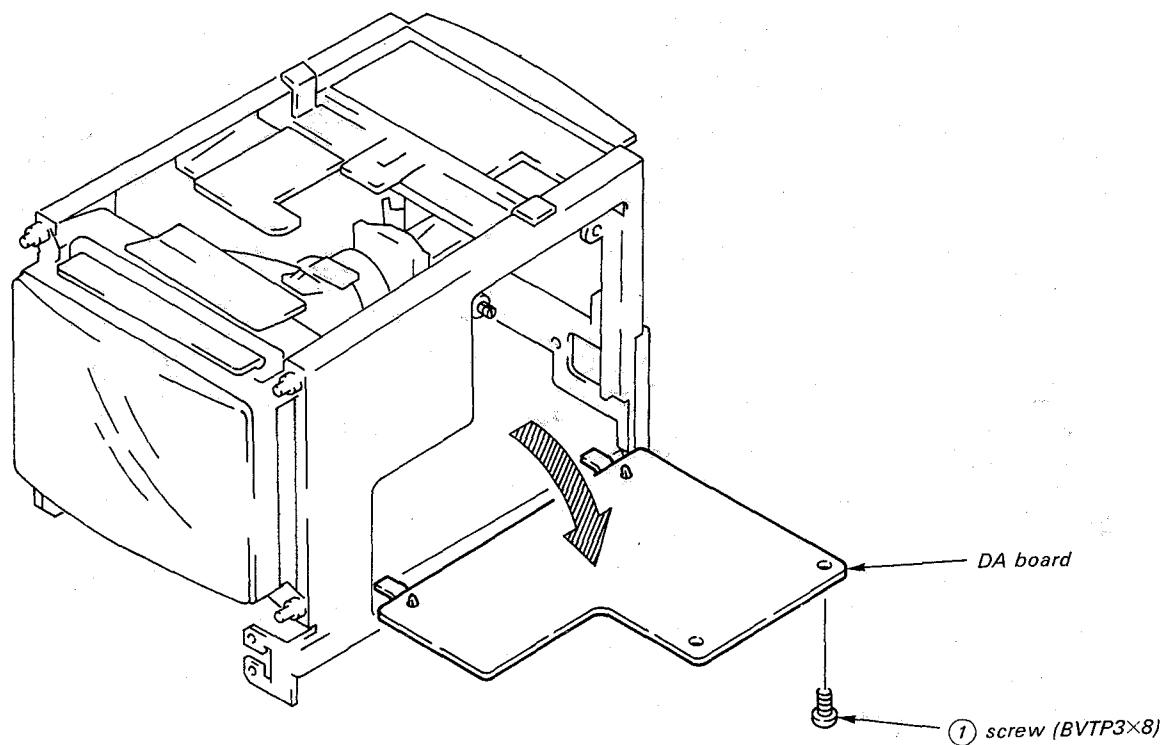
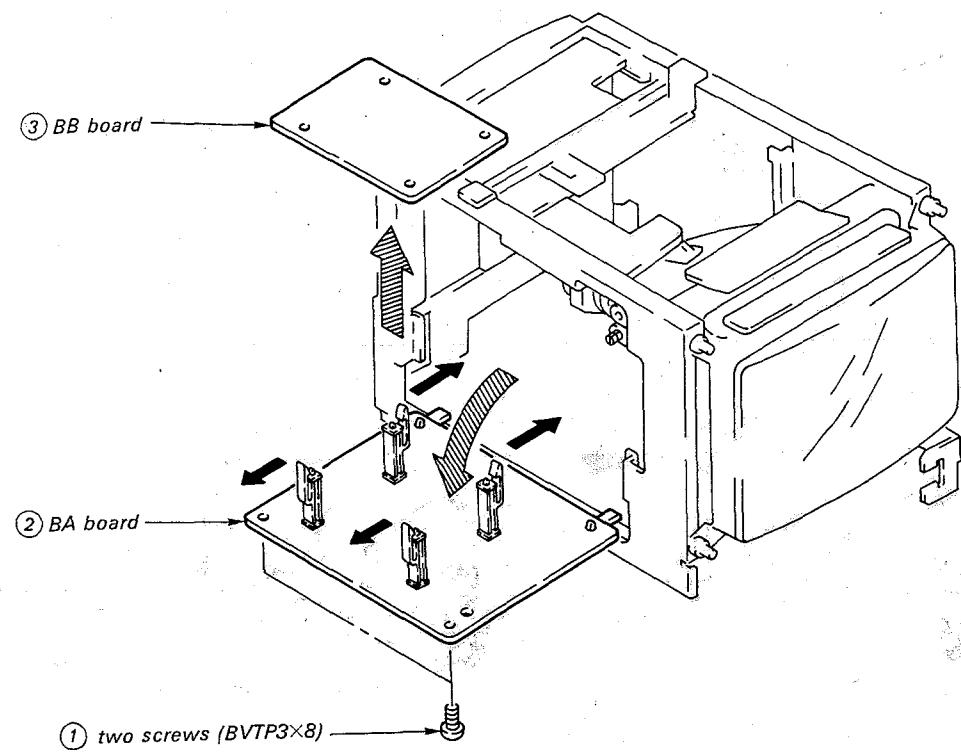


### 2-2. BEZEL REMOVAL (HA, HB, XA BOARD)

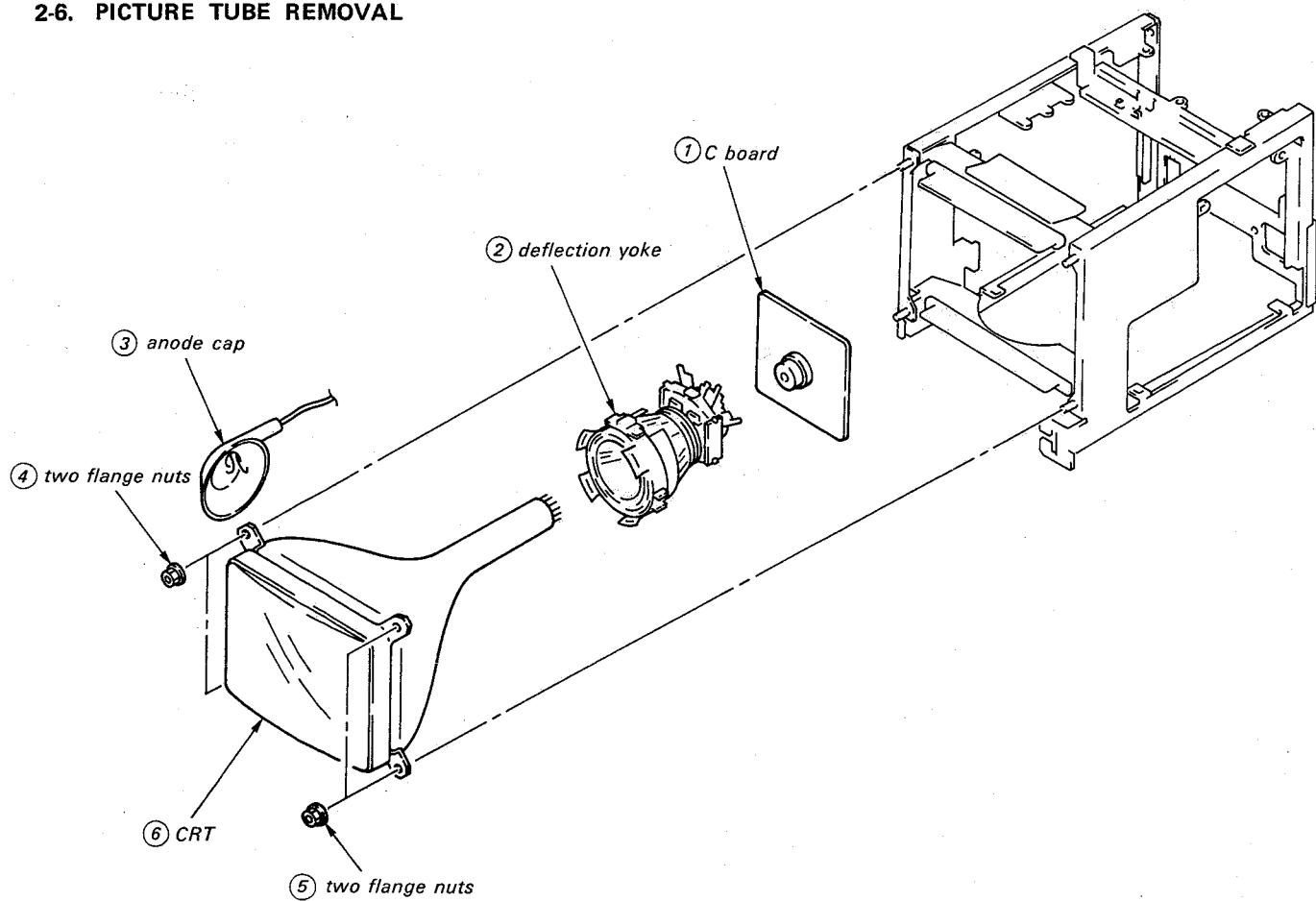


2-3. CABINET BOTTOM REMOVAL

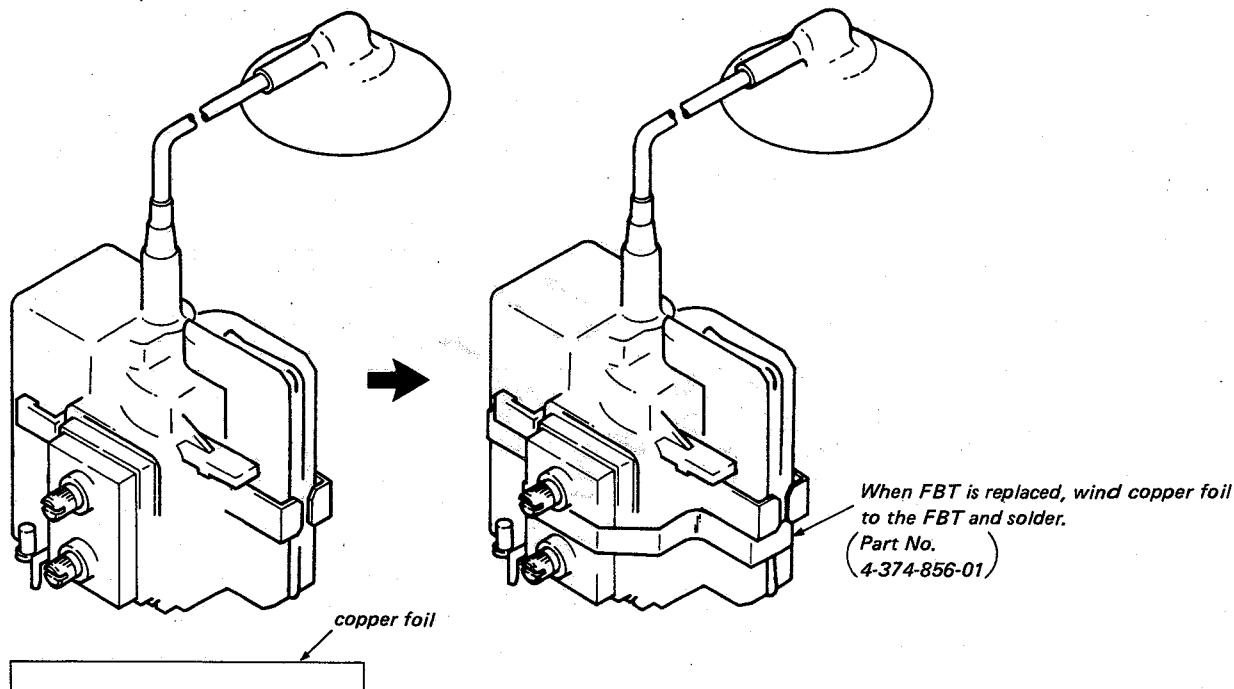


**2-4. DA BOARD REMOVAL****2-5. BA, BB BOARD REMOVAL**

2-6. PICTURE TUBE REMOVAL



2-7. REPLACING, FBT



### SECTION 3 ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Controls and switch should be set as follows unless otherwise noted:

BRT, CONTR controls ..... fully clockwise

#### 3-1. SETUP ADJUSTMENTS

##### 3-1-1. BEAM LANDING

Preparation:

- Before starting, degauss the entire screen.
  - 1. Loosen deflection yoke screw.
  - 2. Remove deflection yoke spacers.
  - 3. Adjust purity control to center the slide between two projections as shown in Fig. 1-1.
  - 4. Slide deflection yoke as far forward as it will go.
  - 5. Turn RED CUT OFF VR (RV259) MAX and GREEN (RV261) and BLUE CUT OFF RV (RV263) MIN.
  - 6. Turn purity control to center vertical red band as shown in Fig. 1-2.
  - 7. Slide deflection yoke back for a uniform red screen.
  - 8. Check green and blue rasters for uniformity.
- Repeat the steps 6, 7 and 8.
- 9. Turn all CUT OFF VR (RV259, 261, 263) for mechanical CENTER.
  - 10. Install the deflection yoke spacers.
  - 11. Tighten the deflection yoke screw.
  - 12. Check if mislanding appears at corners a-d as shown in Fig. 1-3. If mislanding is observed, correct it as shown in Fig. 1-4.

Make the following adjustments in the order as follows given:

- 3-1-1. Beam Landing
- 3-1-2. Focus Adjustment
- 3-1-3. Convergence
- 3-1-4. White Balance

Note: Test Equipment Required  
 1. Color-bar/pattern generator  
 2. Degausser

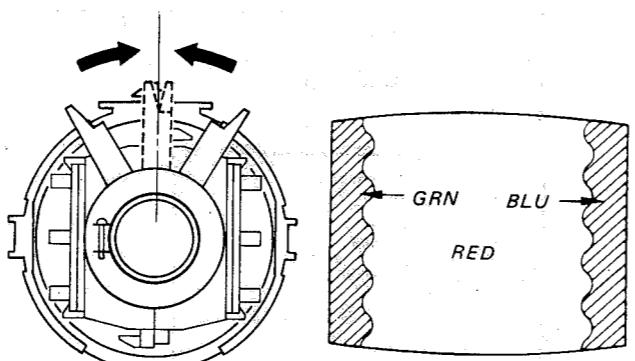


Fig. 1-1

Fig. 1-2

##### 3-1-2. FOCUS ADJUSTMENT

- (1) Input monoscope signal.  
 PICTURE control ..... 80%  
 BRICHT control ..... 50%
- (2) Adjust FOCUS control for a best picture at the center and both sides of the screen.

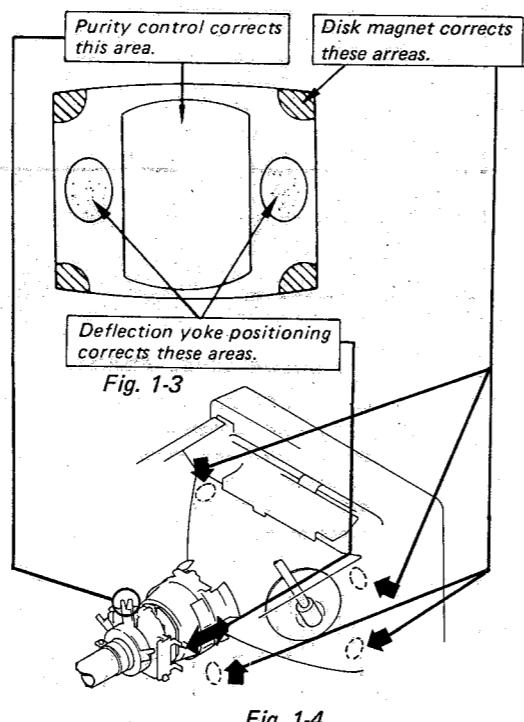
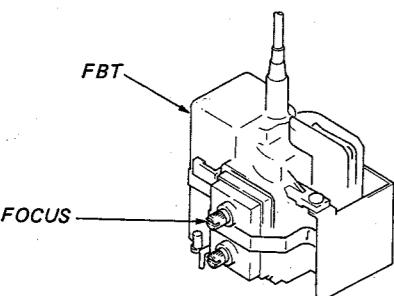


Fig. 1-3

Fig. 1-4

##### 3-1-3. CONVERGENCE

Preparation:

- Before starting, make FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRT control fully counterclockwise.
- Feed in the dot pattern.

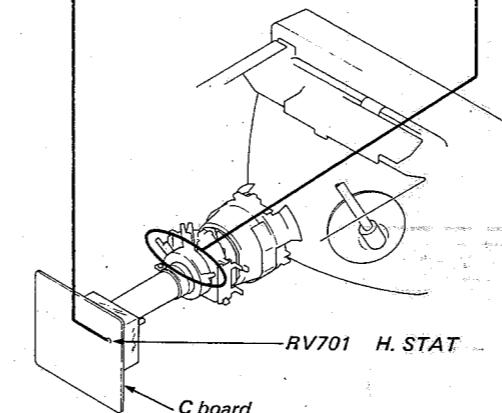
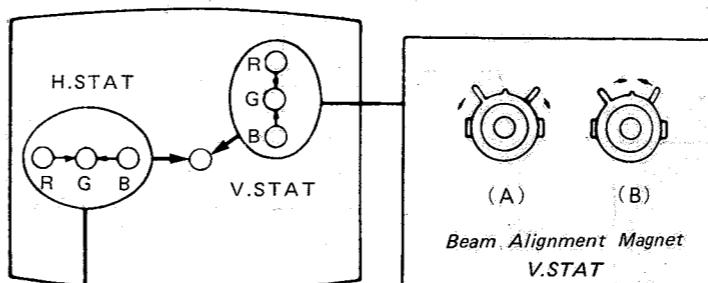
(1) Horizontal Static Convergence and Vertical Static Convergence

If blue dot does not coincide with red and green dots,

Move BMC magnet to correct insufficient H.Static convergence.

Rotate BMC magnet to correct insufficient V.static convergence.

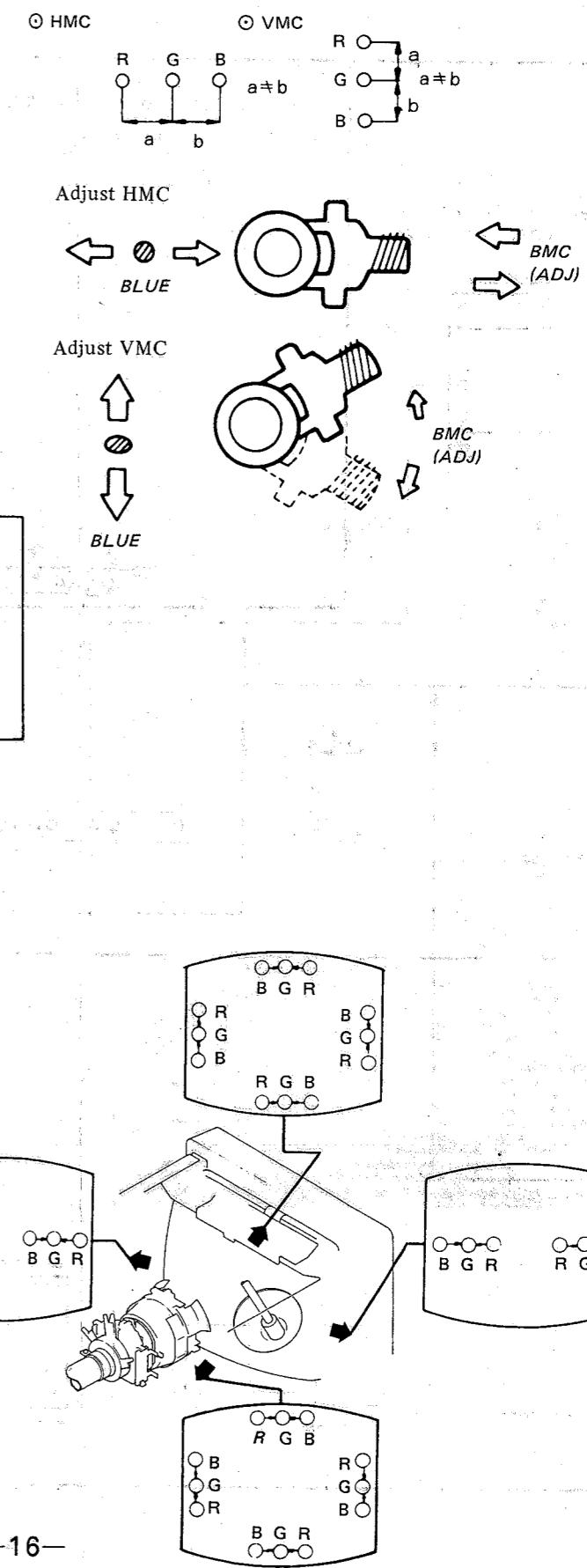
In either case, repeat Beam Landing Adjustment.



##### (2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- 1. Loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.
- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



### 3-1-3. CONVERGENCE

Preparation:

- Before starting, make FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRT control fully counterclockwise.
- Feed in the dot pattern.

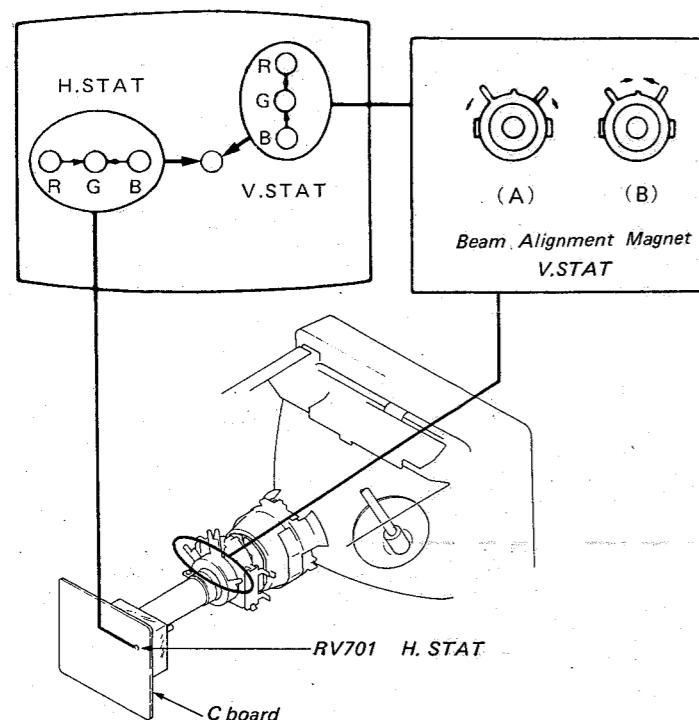
(1) Horizontal Static Convergence and Vertical Static Convergence

If blue dot does not coincide with red and green dots,

Move BMC magnet to correct insufficient H.Static convergence.

Rotate BMC magnet to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

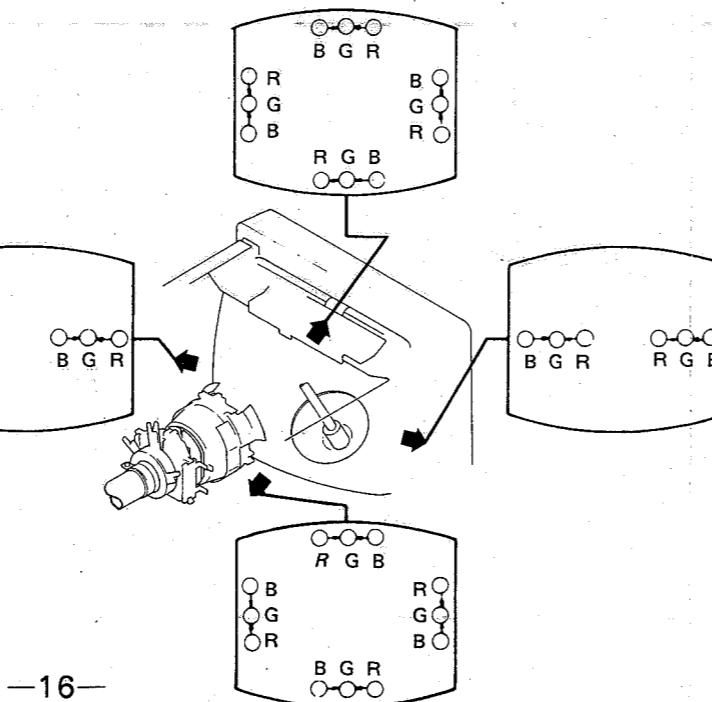
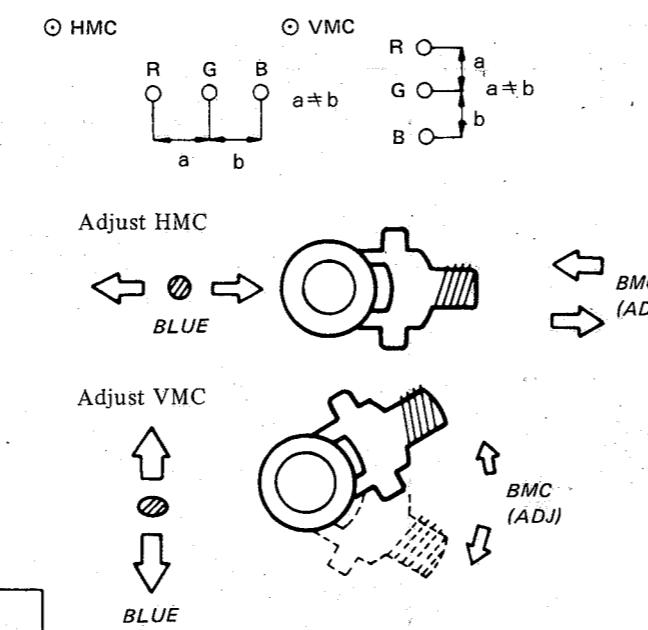


(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



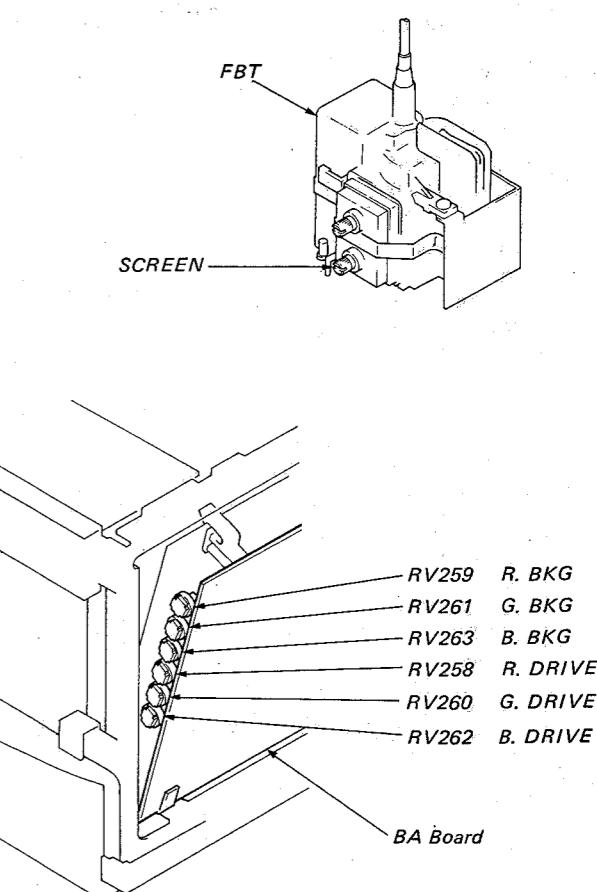
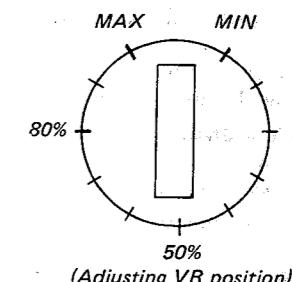
### 3-1-4. WHITE BALANCE

(1) SCREEN (G2)

1. In put a dots pattern.
2. Set the PICTURE control at minimum and turn the BRIGHT control fully counterclock wise.
3. Confirm that BKG voltage is less than 105V dc when turning RV259 (R.BKG), RV261 (G.BKG) and RV263 (B.BKG).
4. Note the color which becomes visible first when turning SCREEN VR.

(2) WHITE BALANCE

1. Input a cross-hatch pattern.
2. Set the PICTURE control to minimum and turn the BRIGHT control click position.
3. Turn RV262 (B.DRIVE), RV260 (G.DRIVE) and RV258 (R.DRIVE) fully clockwise.
4. Set RV259 (R.BKG), RV261 (G.BKG) and RV263 (B.BKG) to minimum.
5. Turn RV509 (SUB BRT) slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning. Do not turn a BKG control for this color.
6. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch. Set the PICTURE control to maximum and turn the BRIGHT control fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat steps 1. through 6. several times.



### 3-2. CIRCUIT ADJUSTMENTS

#### Note: (1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Digital multimeter
3. Color-bar/pattern generator

#### (2) INPUT SIGNAL

When making these adjustments, supply a color-bar or an off-air signal.

(3) These adjustment should be performed with the rated power supply voltage unless otherwise noted.

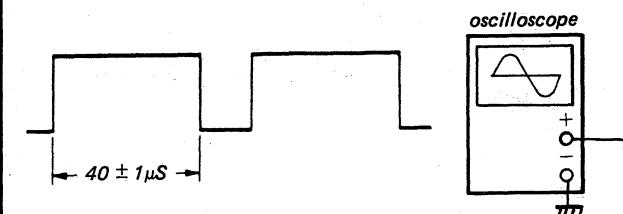
#### (4) CIRCUIT ADJUSTMENTS

Adjustment	Circuit Board	Page
1H DELAY V. DELAY LINE PULSE DELAY	BB	18-19
SUB CONTRAST SECAM COLOR LEVEL	HA	20
ANT PAL SUB COLOR APC KILLER POINT CHROMA TRAP SECAM (ID) SECAM (B-Y) BAT ACC	BA	21-23
POWER SUPPLY OPERATION BATTERY PROTECTOR	FB	24
+B ADJ BLANKING OPERATION CHECK H BLANKING H FREQ V LINE UNDER SCAN, V SIZE V SIZE V CENT	DA	24-26

### 3-2-1. BB BOARD ADJUSTMENTS

#### 1H DELAY ADJUSTMENT

1. Input a PAL color bar signal.  
PICTURE .80%  
BRT .50%
2. Observe the connector BB-2 pin ③ waveform on the oscilloscope, and adjust RV265 for  $40 \pm 1\mu\text{s}$ .



#### LINE PULSE DELAY ADJUSTMENT

1. Input an color bar signal.
2. Set the DELAY mode.
3. Connect dual oscilloscope at pin ② of BB-3 and pin ④ of BA-1.
4. Adjust RV257 for the waveform to becomes as Fig. 1.

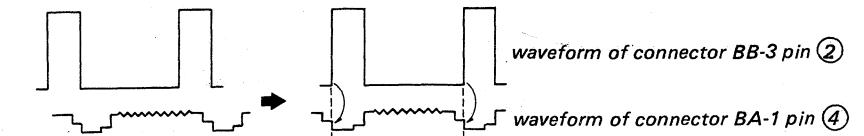
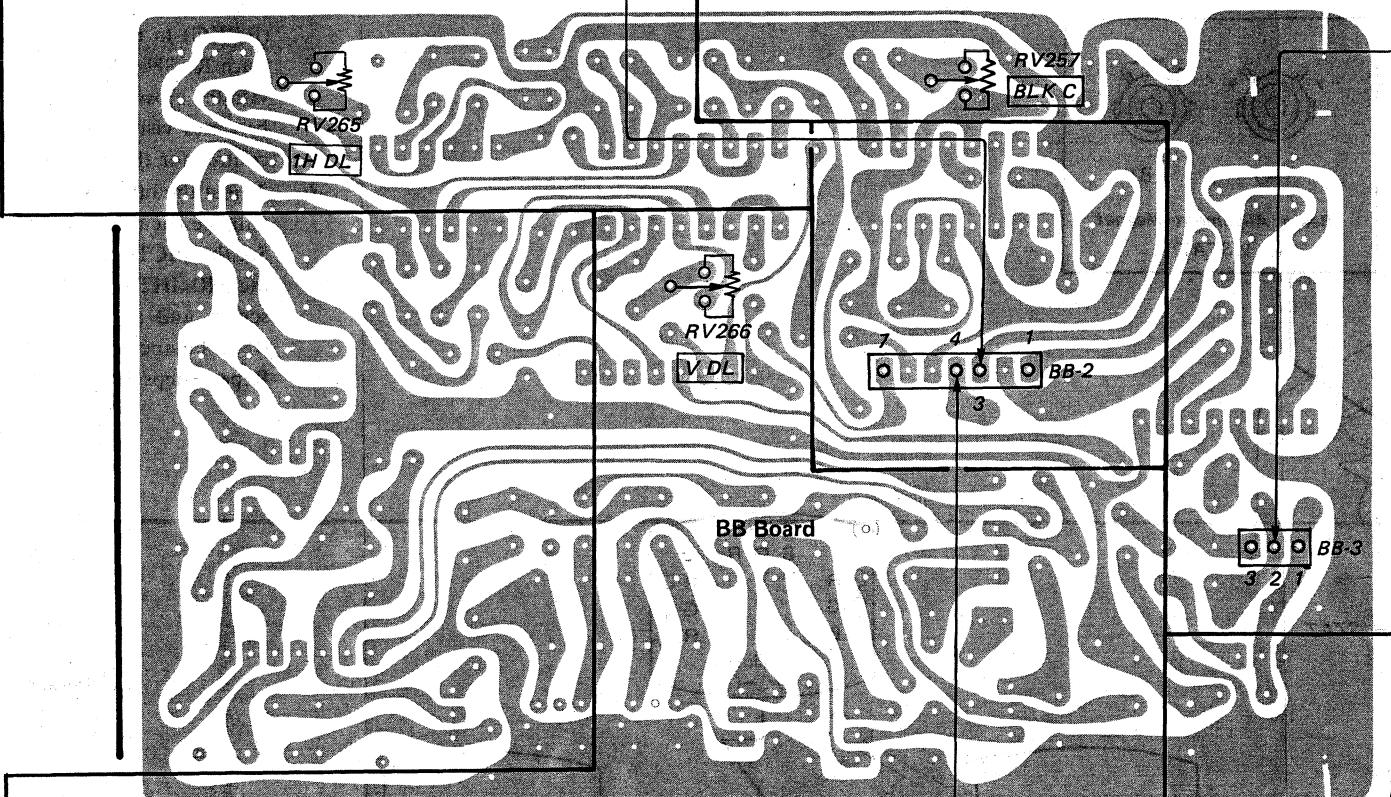
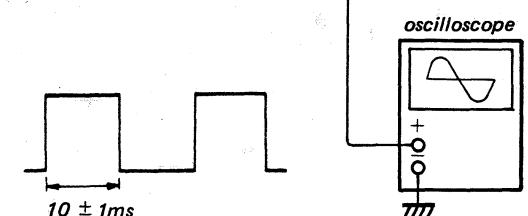


Fig. 1



#### V. DELAY ADJUSTMENT

1. Input a PAL color bar signal.  
PICTURE 80%  
BRT 50%
2. Observe the connector BB-2 pin ④ waveform on the oscilloscope, and adjust RV266 for  $10 \pm 1\text{msec}$ .



## JUSTMENTS

## ADJUSTMENT

L color bar signal.  
 . 80%  
 . 50%  
 e connector BB-2 pin (3) waveform on  
 cope, and adjust RV265 for  $40 \pm 1\mu\text{sec}$ .

## LINE PULSE DELAY ADJUSTMENT

1. Input an color bar signal.
2. Set the DELAY mode.
3. Connect dual oscilloscope at pin (2) of BB-3 and pin (4) of BA-1.
4. Adjust RV257 for the waveform to becomes as Fig. 1.

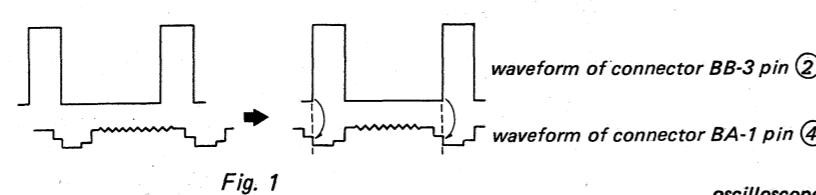
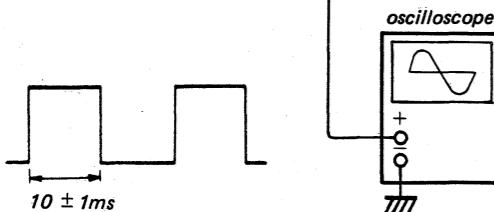
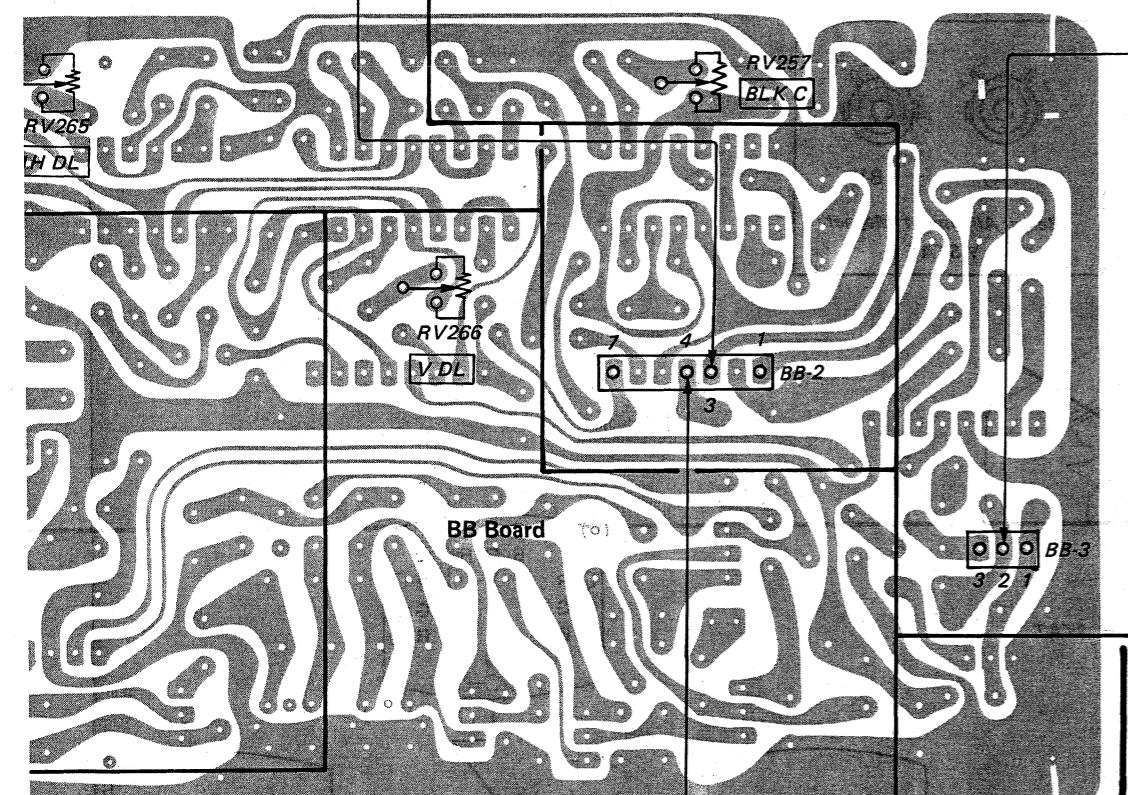


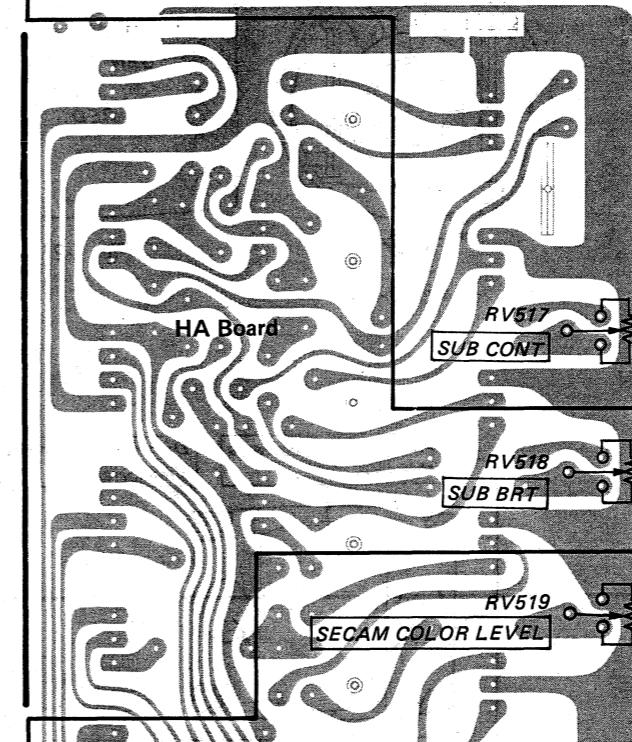
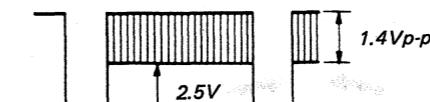
Fig. 1

BB-2 pin (4) waveform on  
 just RV266 for  $10 \pm 1\text{ms}$ .

## 3-2-2. HA BOARD ADJUSTMENTS

## SUB CONTRAST ADJUSTMENT

1. Input a monoscope pattern signal.  
 PICTURE 100%  
 BRT 50%
2. Observe connector BA-6 pin (3) on the oscilloscope and adjust RV517 so that the signal component is  $1.4V_{\text{p-p}}$ .



## SECAM COLOR LEVEL ADJUSTMENT

1. Input a SECAM color bar.
2. Connect oscilloscope at pin (3) of BA-6 connector.
3. Set the PICTURE control at max and COLOR control at center.
4. Adjust RV519 (HA board) for the waveform at connector BA-6 pin (3) to become as Fig. 1.

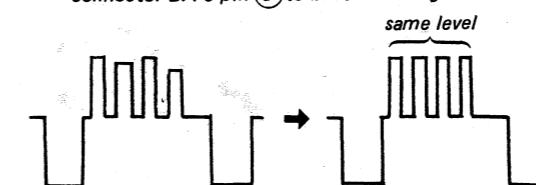


Fig. 1

3-2-3. BA BOARD ADJUSTMENTS

**ANT PAL ADJUSTMENT**

1. Input a PAL special color bar.
2. Connect an oscilloscope to pin ③ of BA-6 connector.
3. Set the COLOR control at center.
4. Adjust RV251 and RV252 for the waveform at connector BA-6 pin ③ to become as Fig. 1.

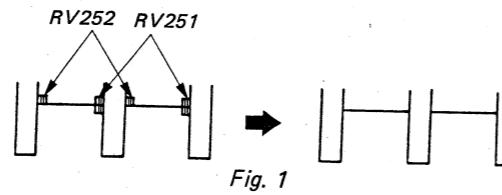


Fig. 1

**SUB COLOR ADJUSTMENT**

1. Input a PAL color bar signal.  
PICTURE 100%  
COLOR 50%
2. Adjust RV264 for the waveform at connector BA-6(③) to become as Fig. 2.

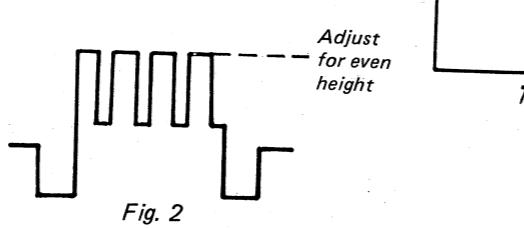


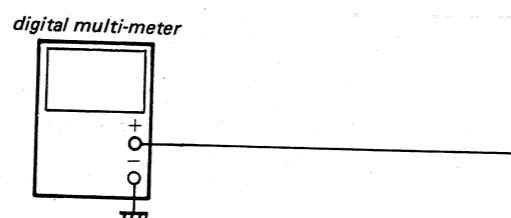
Fig. 2

**APC ADJUSTMENT**

1. Input a PAL color bar signal.  
PICTURE 80%  
BRIGHT 50%  
COLOR 50%
2. Connect a  $100k\Omega$  resistor between IC253 pin 13 and ground (Killer circuit goes off).
3. Connect a  $10\mu F/25V$  chemical capacitor between IC253 pin 16 and ground.
4. Adjust RV256 to obtain the stable color picture.
5. Disconnect the  $100k\Omega$  resistor and chemical capacitor.

**KILLER POINT ADJUSTMENT**

1. Tune in an off-air signal.
2. Connect digital multimeter between R255 and R378.
3. Adjust R255 so that the voltage is 8.3V dc.



**CHROMA TRAP ADJUSTMENT**

1. Input a SECAM color bar signal.  
PICTURE 80%  
BRIGHT 50%
2. Observe connector BA-6 pin ① waveform on the oscilloscope and adjust L253 for minimum chroma component.
3. Input a PAL color bar signal.
4. Observe connector BA-6 pin ① waveform on the oscilloscope and adjust L252 for minimum chroma component.

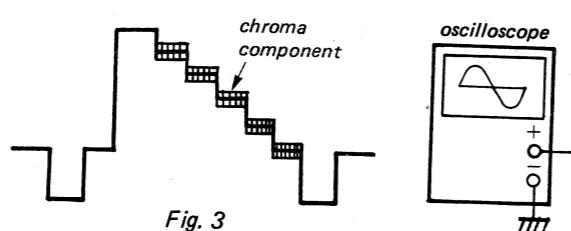
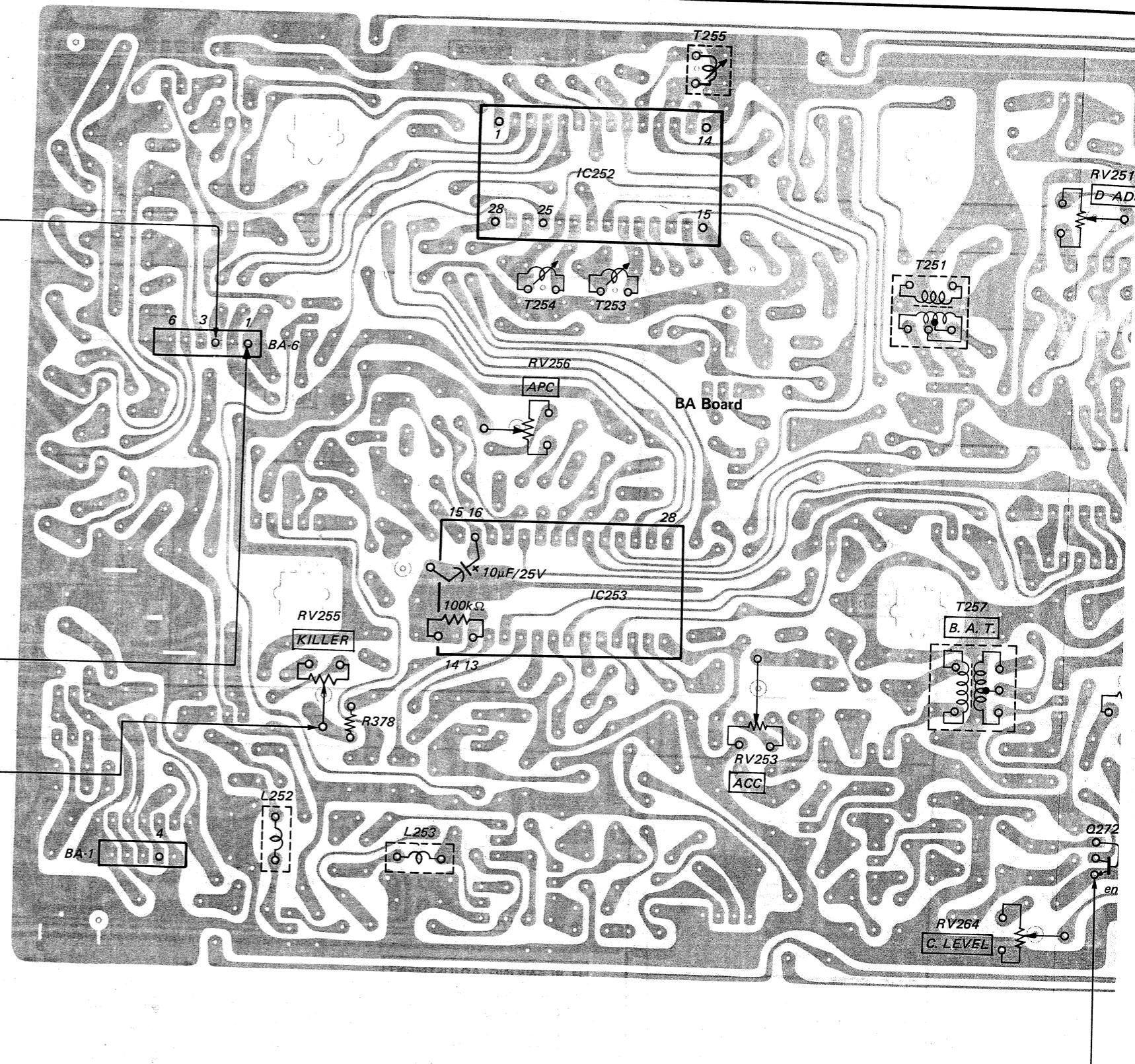
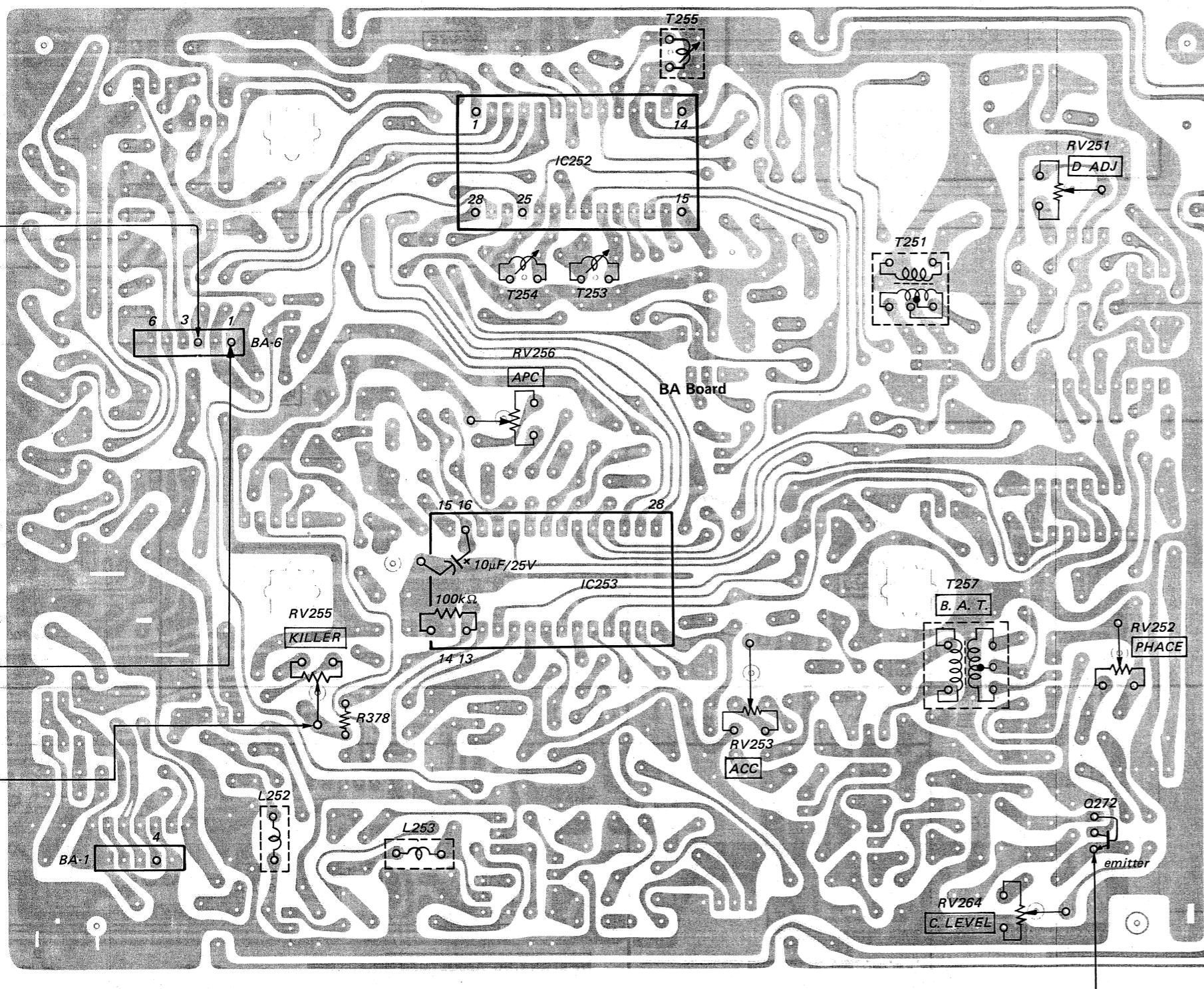


Fig. 3



**SECAM ADJUSTMENT (ID)**

1. Input the SECAM color bar.
2. Connect an digital multimeter to pin 25 of IC252.
3. Adjust T254 so that the digital multimeter reading is maximum.

**SECAM ADJUSTMENT (B-Y)**

1. Input the SECAM color bar.
2. Connect an oscilloscope to pin 25 of IC252.
3. Adjust T253 for the waveform at pin 25 of IC252 to becomes as Fig. 5.

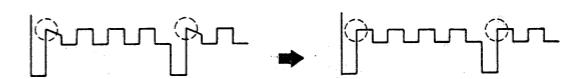


Fig. 5

4. Connect an oscilloscope to pin 1 of BA-6 connector.
5. Adjust T255 for the waveform at connector BA-6 pin 1 to become as Fig. 6.

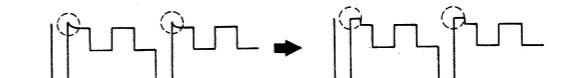
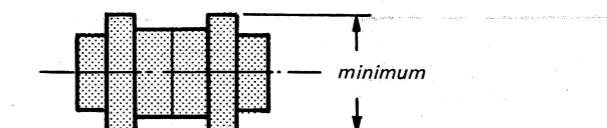


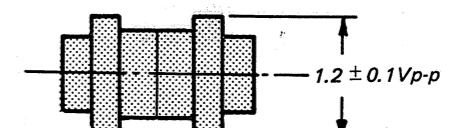
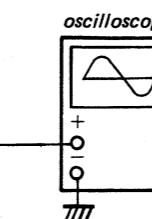
Fig. 6

**BAT ADJUSTMENT**

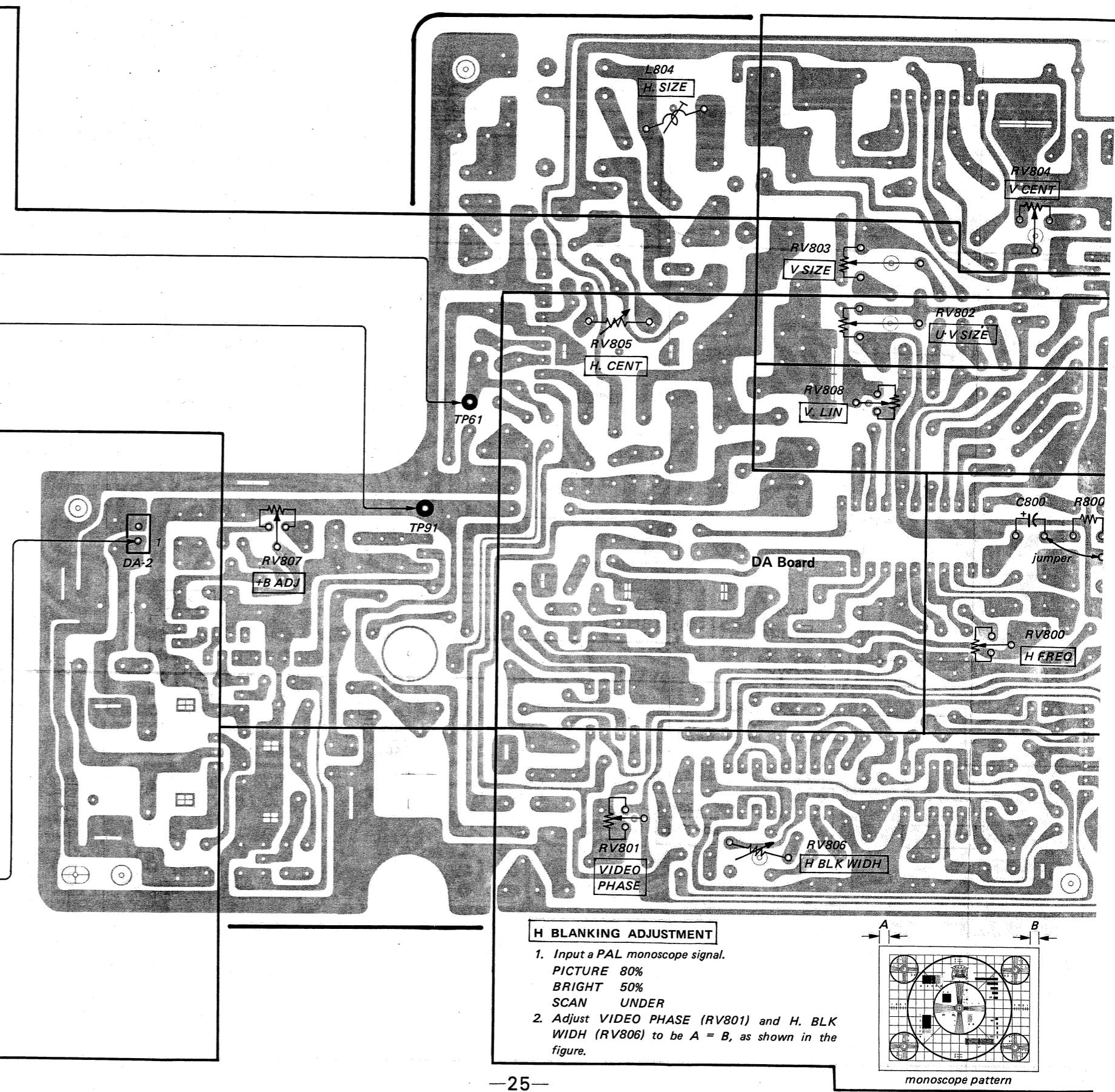
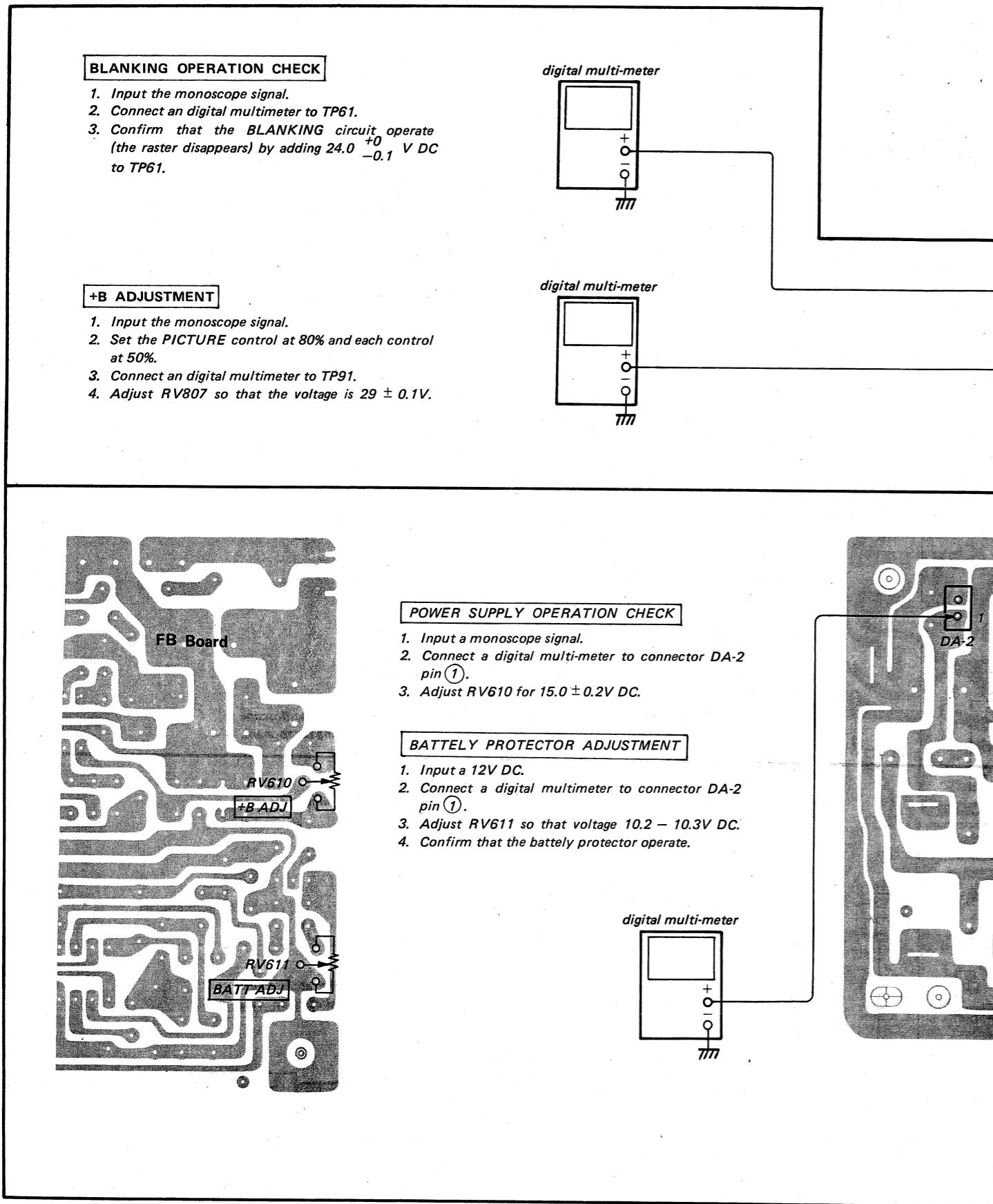
1. Input a PAL color bar signal.  
PICTURE 80%  
BRIGHT 50%  
COLOR 50%
2. Observe Q272 (E) waveform on the oscilloscope and adjust T257 for minimum chroma component.

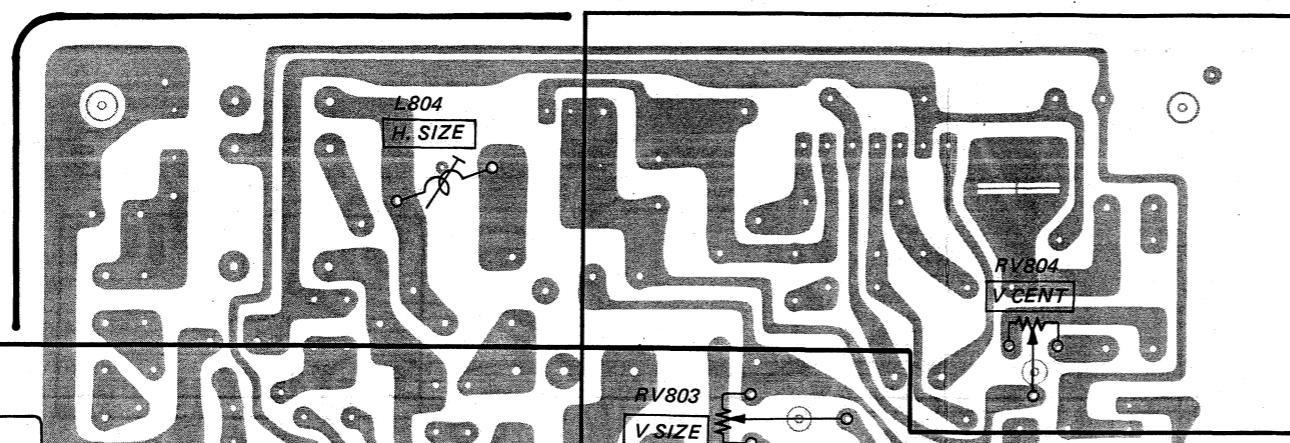
**ACC ADJUSTMENT1**

1. Input a PAL color bar signal.  
PICTURE 80%  
BRIGHT 50%  
COLOR 50%
2. Observe Q272 (E) waveform on the oscilloscope and adjust RV253 so that the signal component is  $1.2 \pm 0.1V_{p-p}$ .



## 3-2-4. DA AND FB BOARDS ADJUSTMENTS



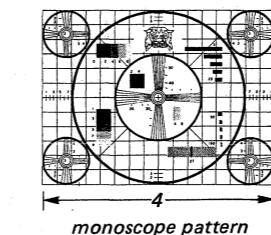
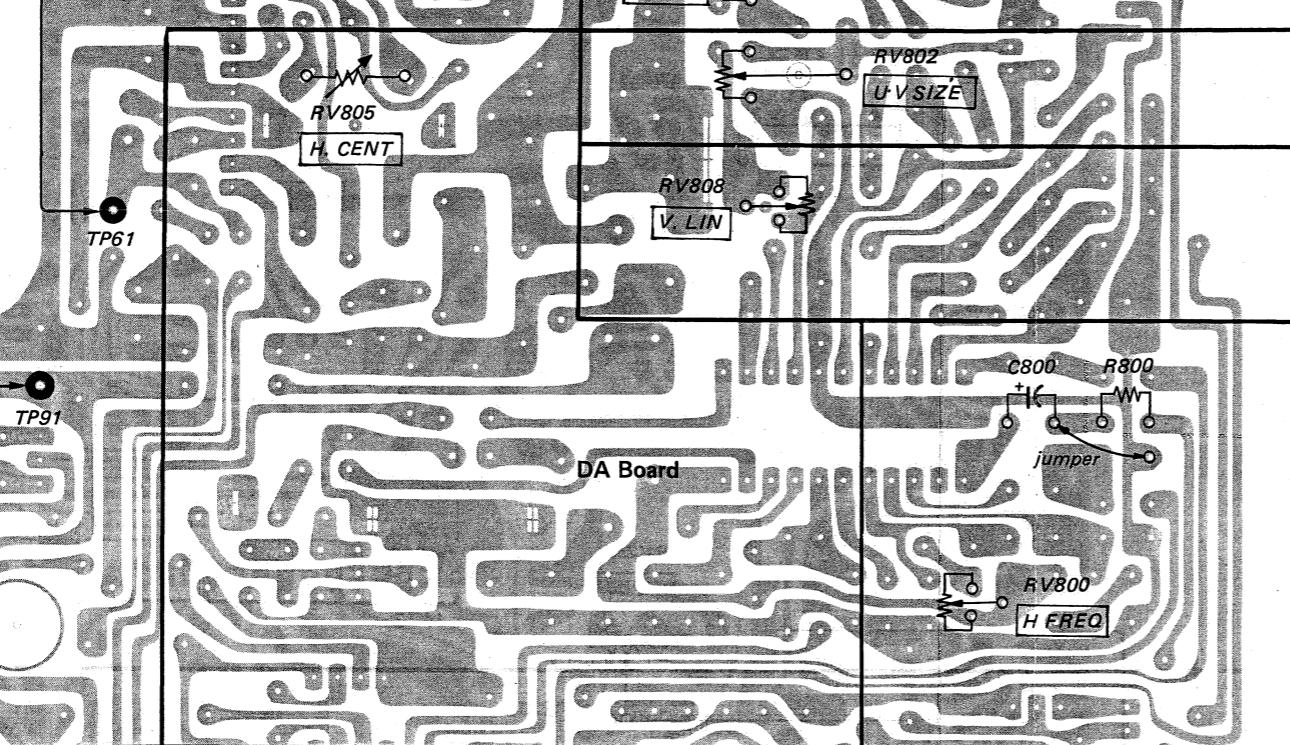


**V. CENT ADJUSTMENT**

1. Input a PAL monoscope signal.  
PICTURE 80%  
BRIGHT 50%
2. Adjust with V. CENT (RV804) so that picture is centered.

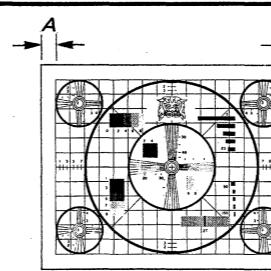
**V. SIZE ADJUSTMENT**

1. Input a PAL monoscope signal.  
PICTURE 80%  
BRIGHT 50%
2. Set the V. SIZE (RV803) to obtain a suitable picture.



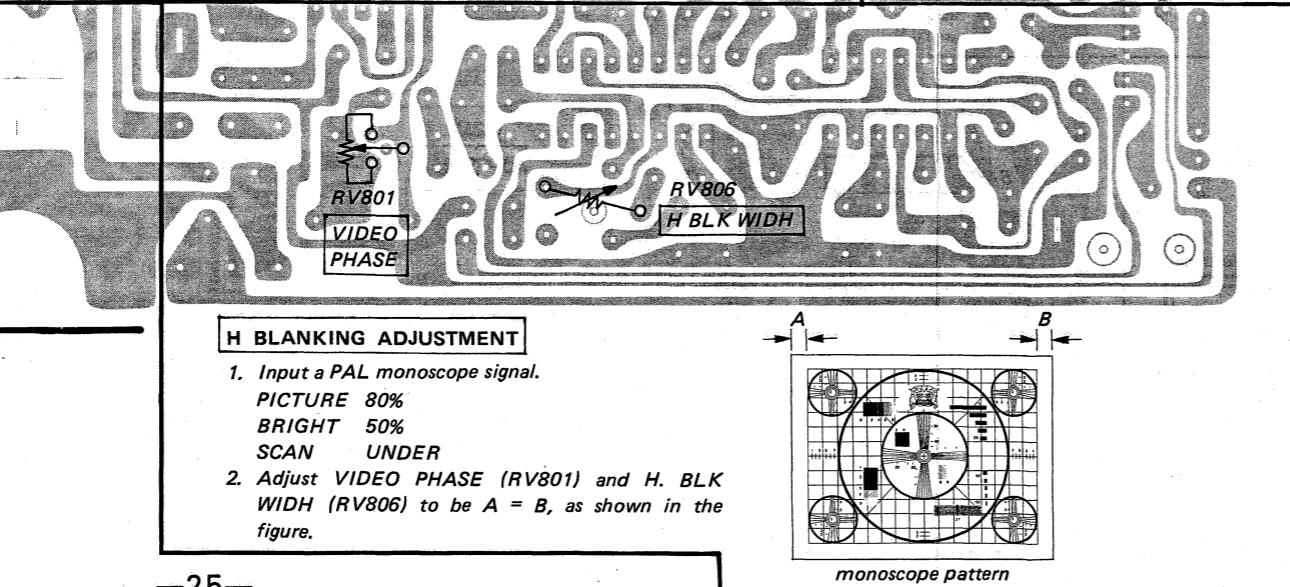
**UNDER-SCAN V. SIZE ADJUSTMENT**

1. Input a PAL monoscope signal.  
PICTURE .80%  
BRIGHT .50%  
SCAN . . . UNDER
2. Adjust UN V. SIZE (RV802) so that the monoscope pattern of H. SIZE and V. SIZE is 4:3.



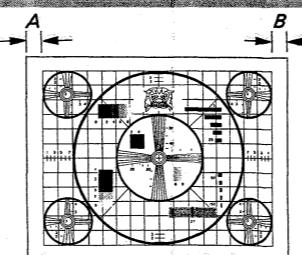
**V. LINE ADJUSTMENT**

1. Input a PAL monoscope signal.  
PICTURE 80%  
BRIGHT 50%
2. Adjust V. LINE (RV808) so that the monoscope pattern of A and B is same scal.



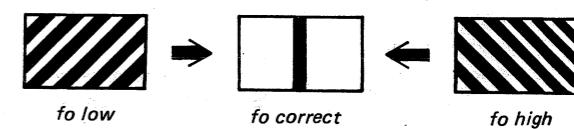
**H. BLANKING ADJUSTMENT**

1. Input a PAL monoscope signal.  
PICTURE 80%  
BRIGHT 50%  
SCAN UNDER
2. Adjust VIDEO PHASE (RV801) and H. BLK WIDTH (RV806) to be A = B, as shown in the figure.



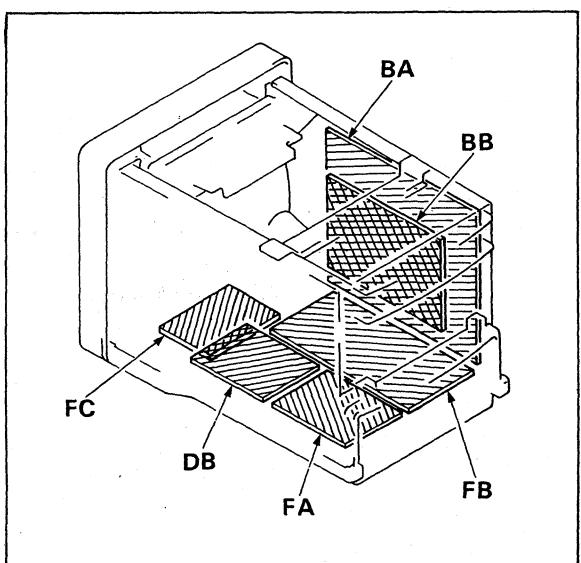
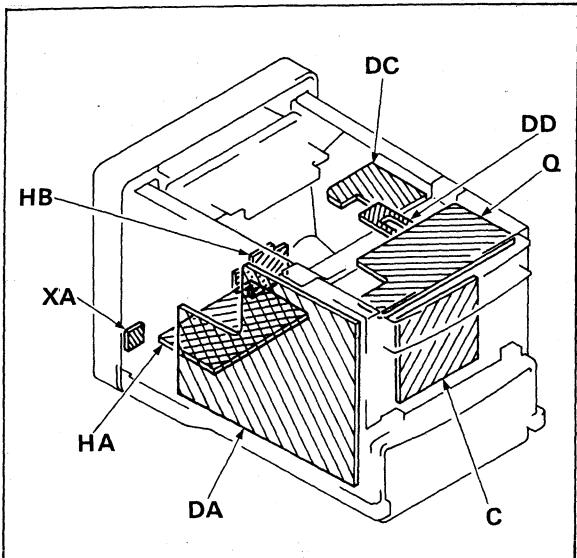
**H. FREQ ADJUSTMENT**

1. Input a PAL monoscope signal.  
PICTURE 80%  
BRIGHT 50%
2. Connect a jumper between C800 minus side and ground.
3. Adjust with H. FREQ (RV800) as shown in figure.

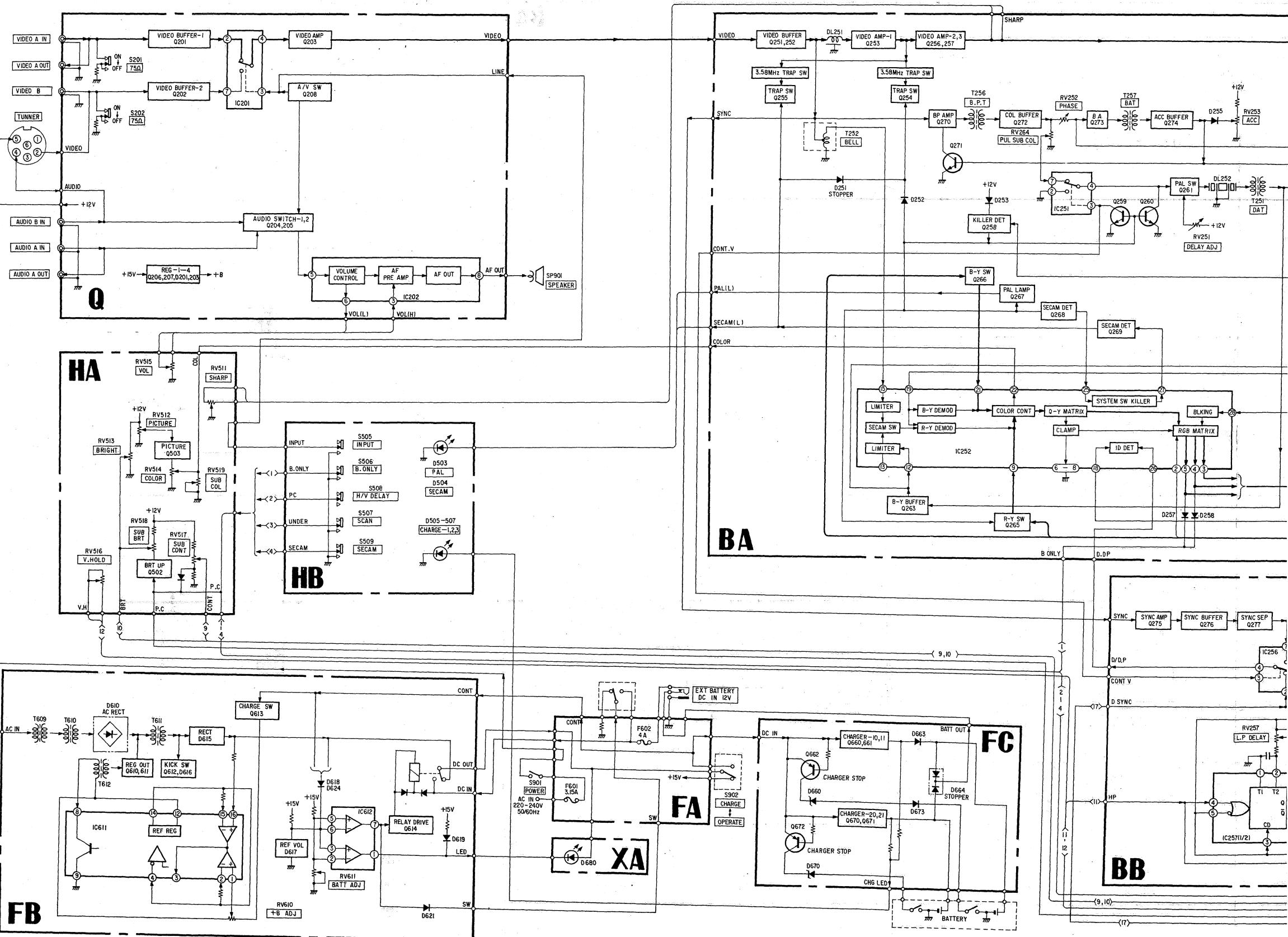


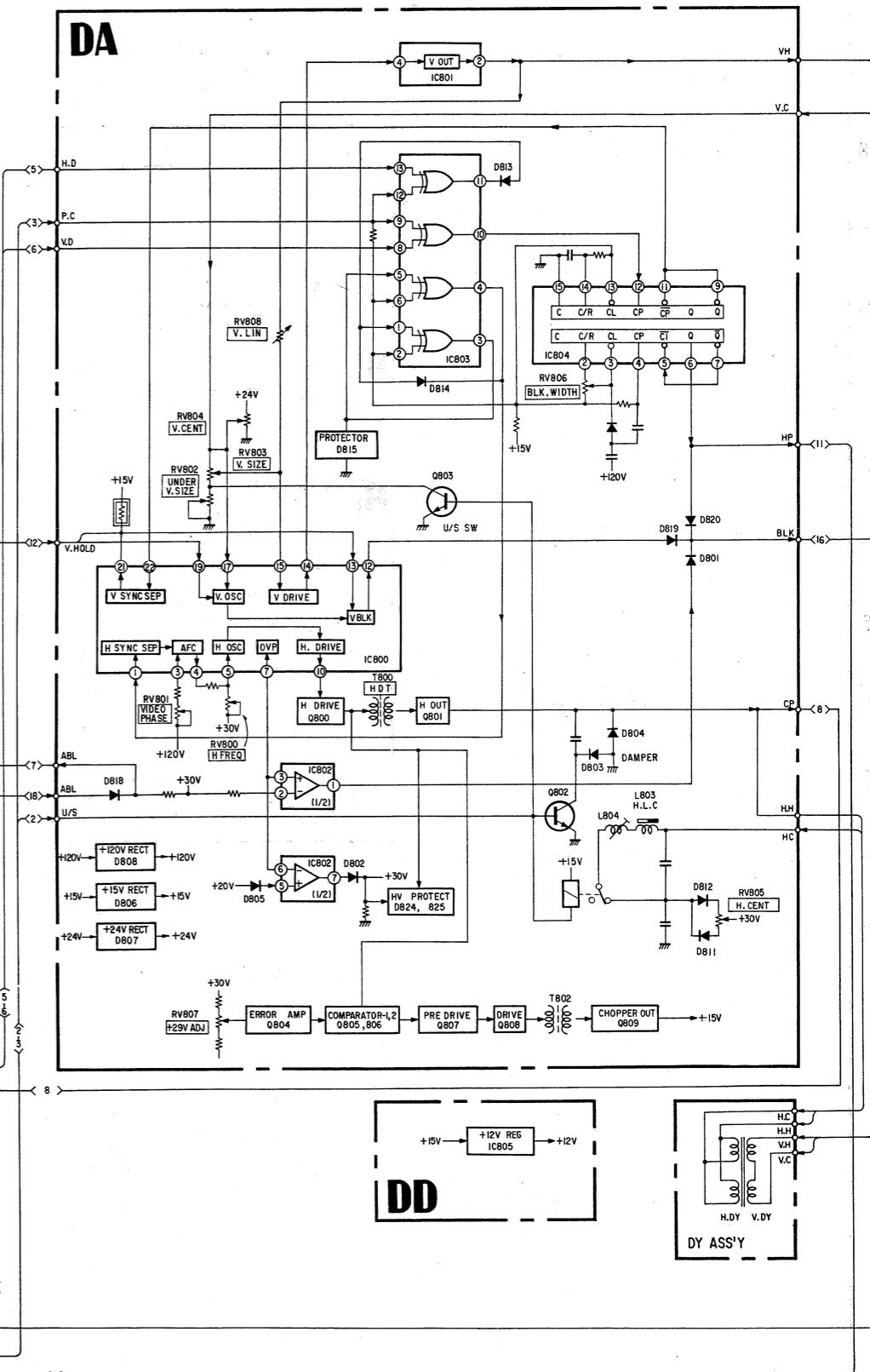
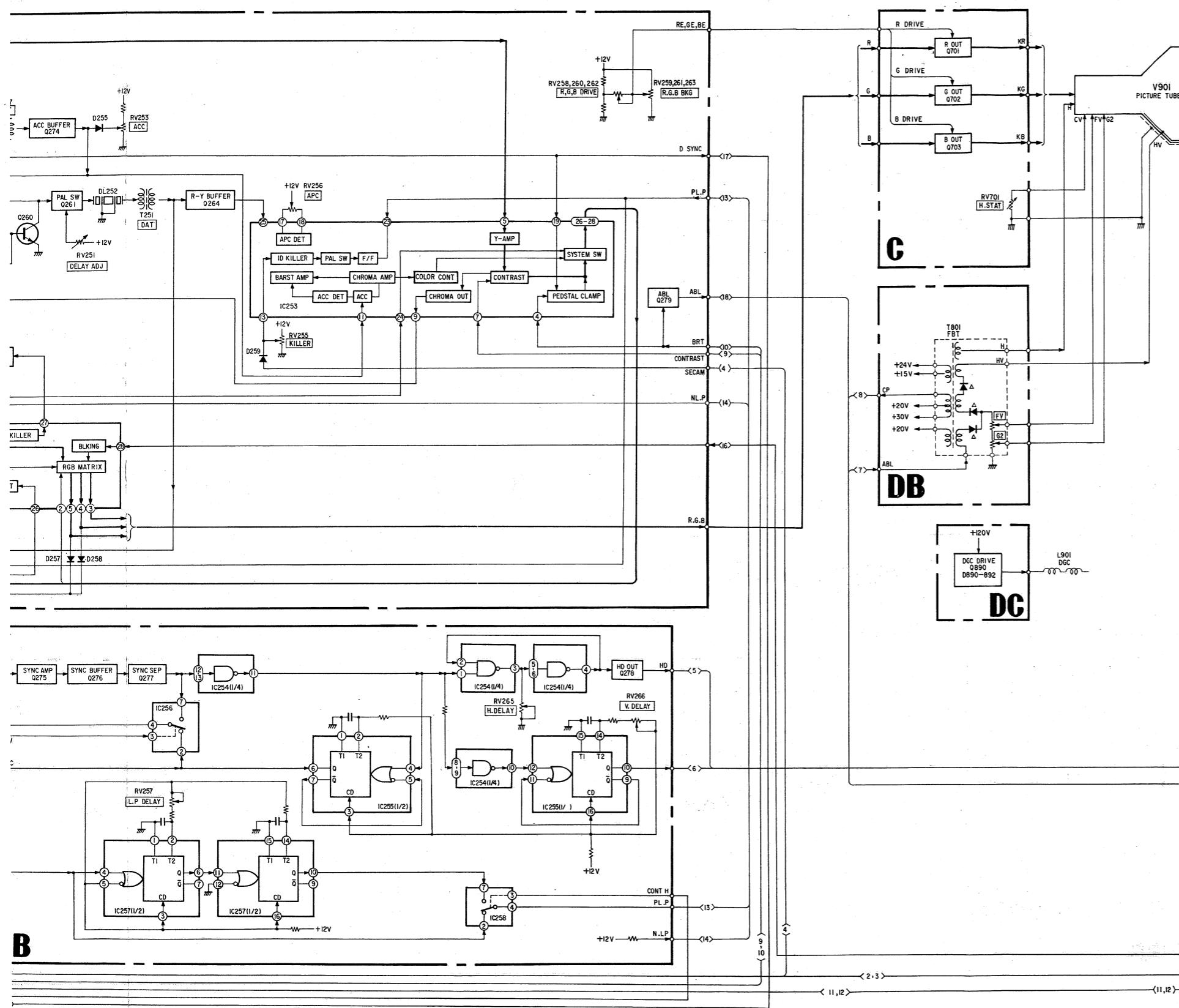
**SECTION 4  
DIAGRAMS**

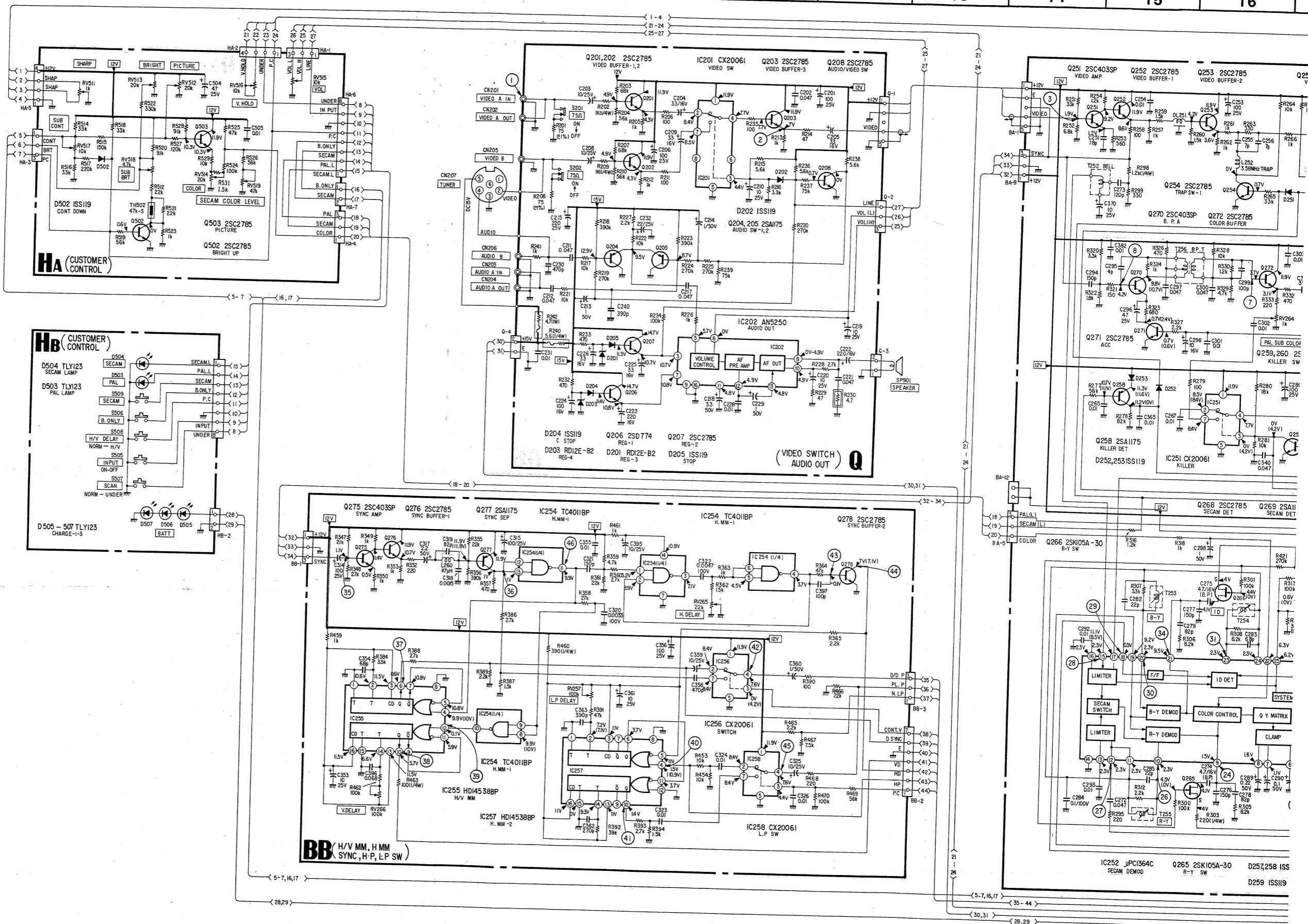
**4-1. CIRCUIT BOARDS LOCATION**



**4-2. BLOCK DIAGRAM**

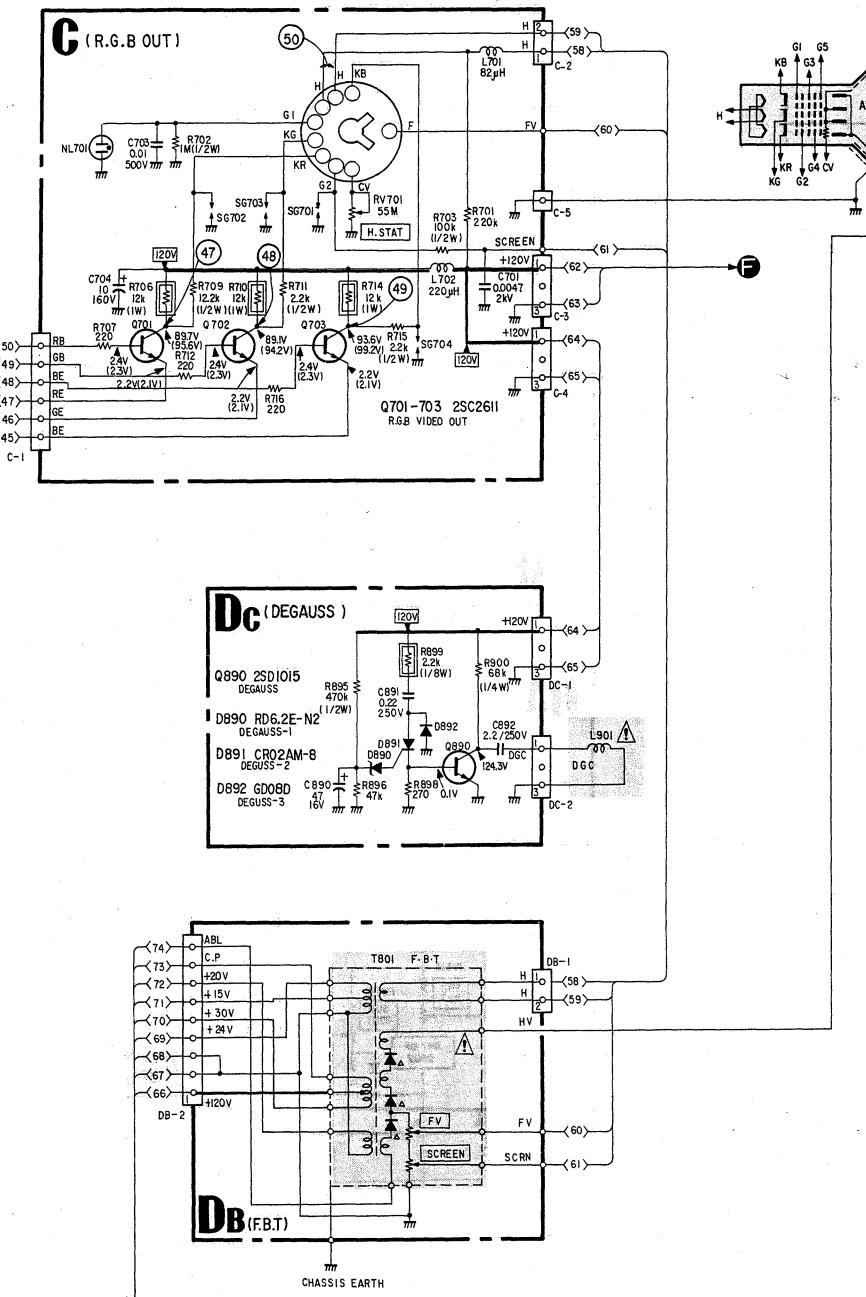
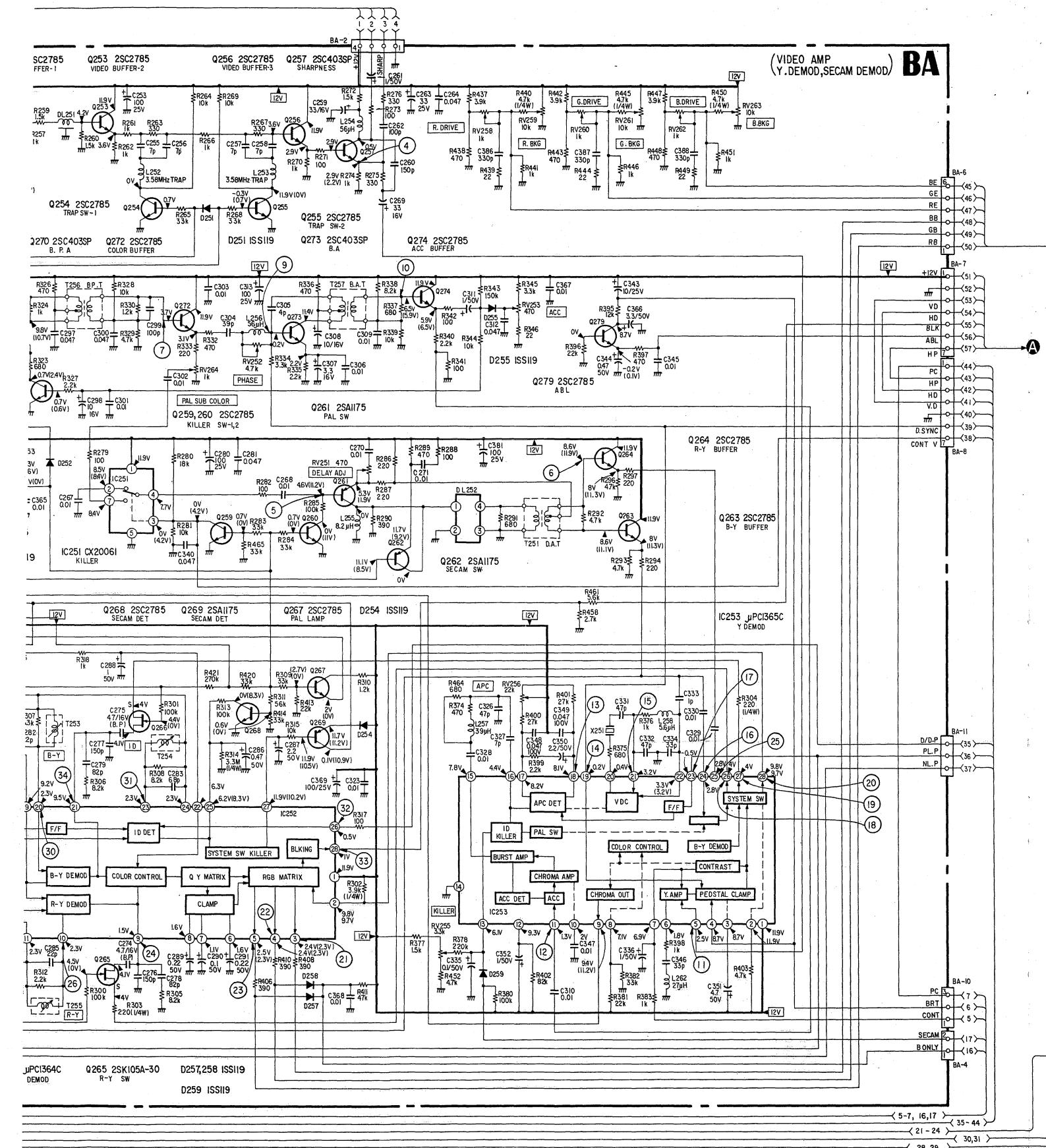






**PVM-9020ME**

16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30



-33-

—34—

1 2 3 4 5 6 7 8 9 10 11 12

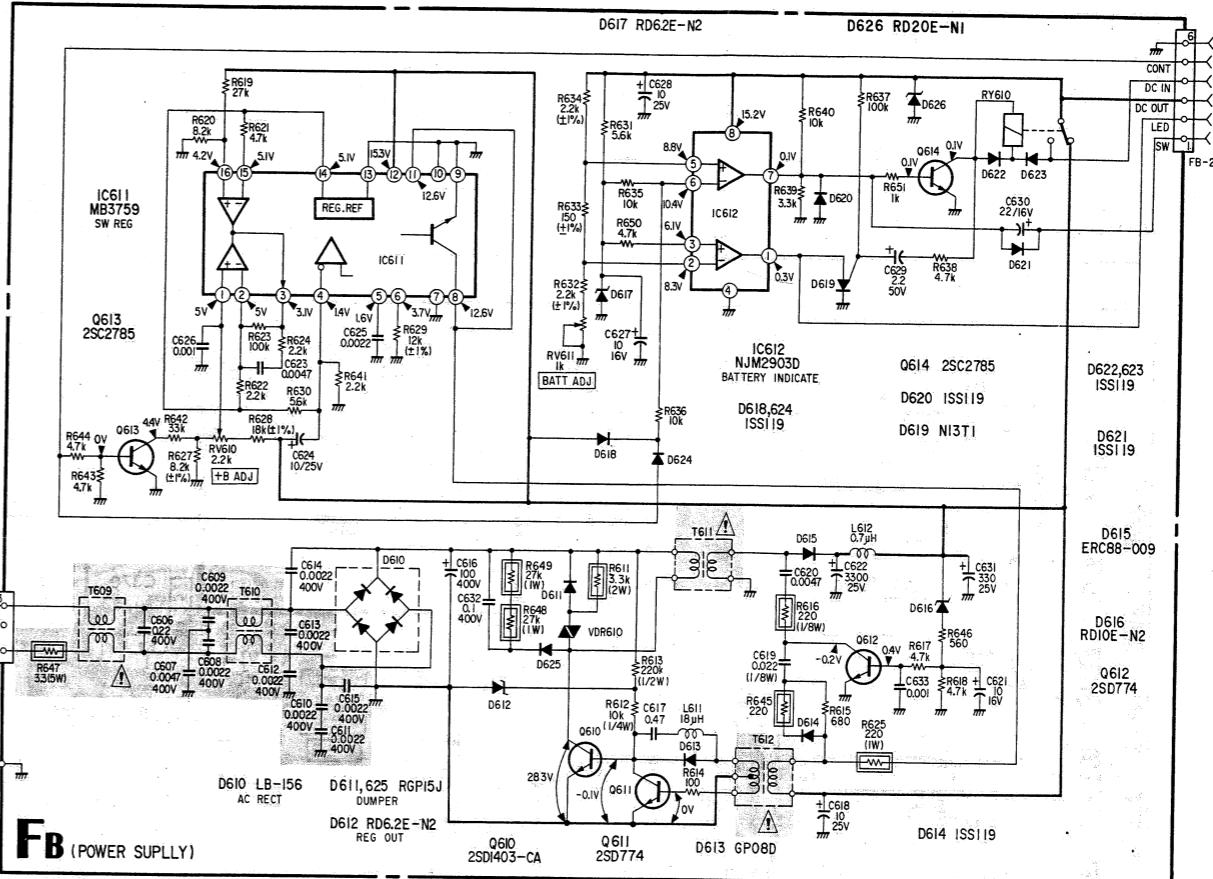
Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{p}$  :  $\mu\mu\text{F}$
- 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted.
- $\text{k}$  :  $1000\Omega$ ,  $\text{M}$  :  $1000\text{k}\Omega$
- : Nonflammable resistor
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : Fusible resistor
- : internal component.
- : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a  $10\text{M}\Omega$  digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- : adjustment for repair.
- Voltage on FB board is taken with Q610 Emitter.
- Readings are taken with a color-bar signal input.  
no mark: with PAL color-bar signal received.  
() : with SECAM color-bar signal received.
- Circled numbers (1 - 70) are waveform references.  
Refer to waveform on page 39.
- Refer to waveform on page 39, 40.

A

51-57



DA

IC801  
 $\mu\text{PC}1378\text{f}$   
V OUT

D809  
GP08I

DELAY  
<24>  
U/S  
<23>  
V.HOLD  
<22>  
<21>  
DA-1  
G935:  
330V

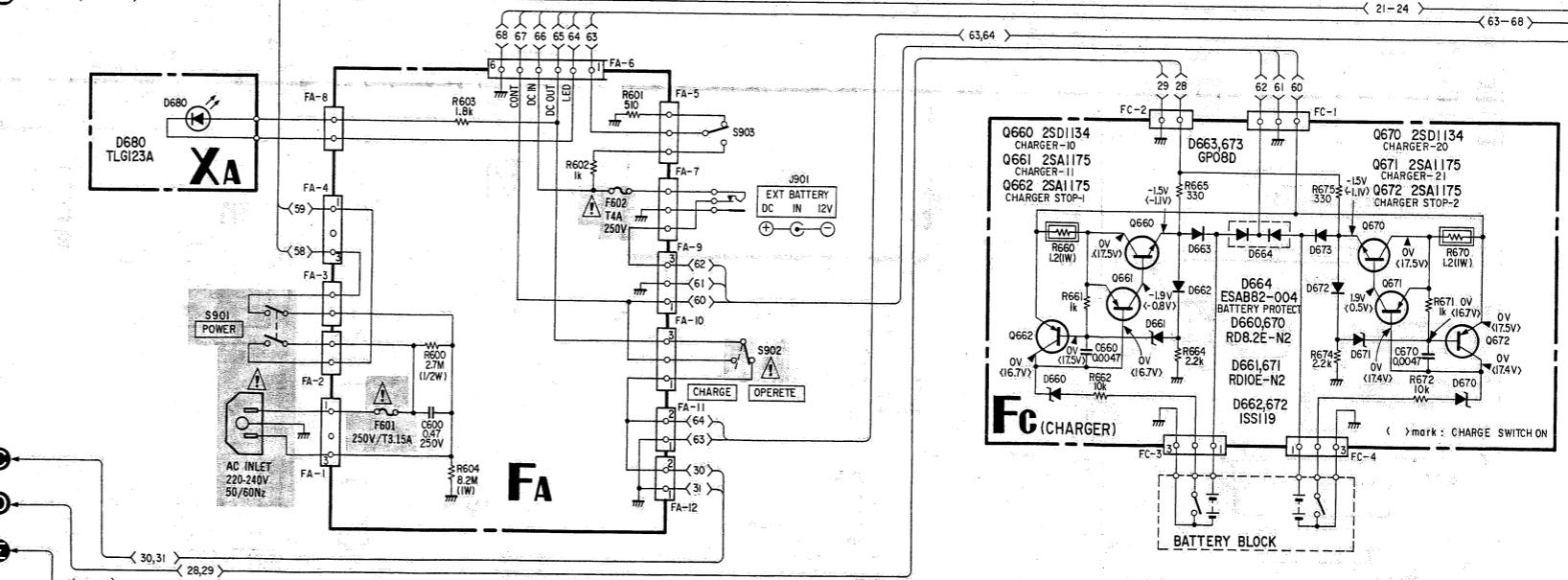
62

IC800  
 $\mu\text{PC}1377\text{f}$   
AFC

D800  
RD6.2E-  
PROTECTO

E

21-24 63-68



DA-2

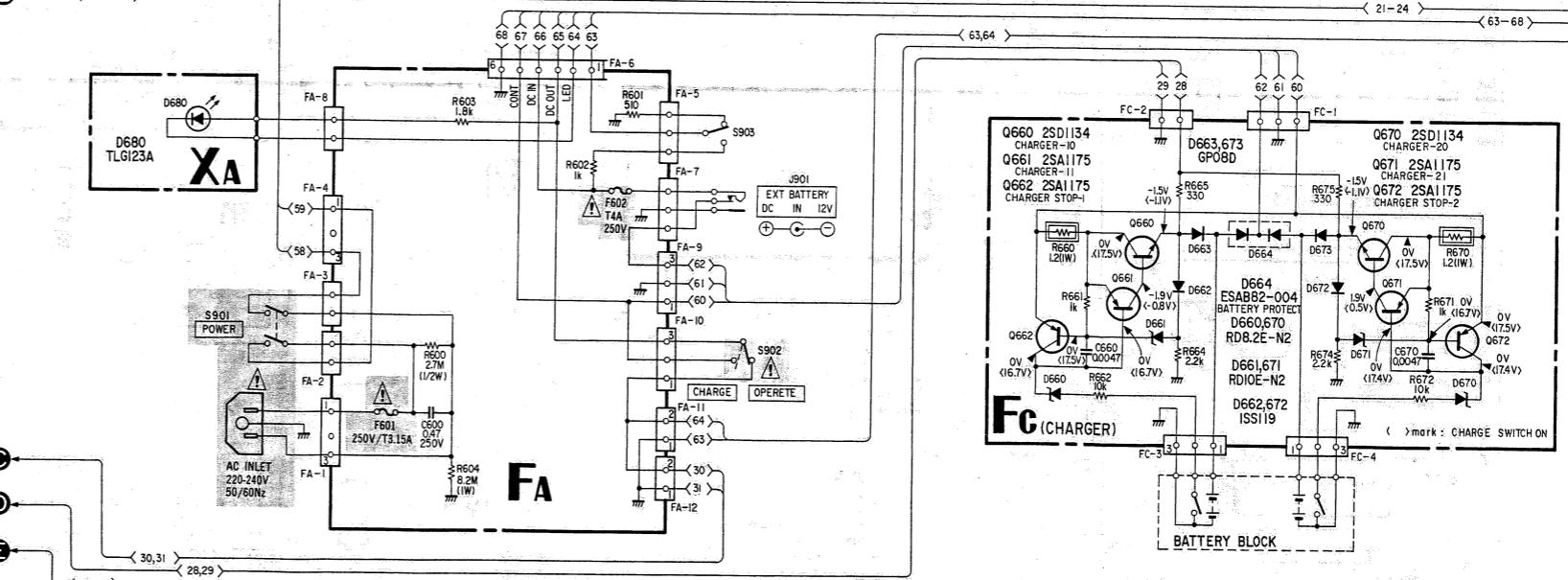
+15V  
TP92

F

21-24

G

63,64



H

63-68

C

30,31

D

66-74

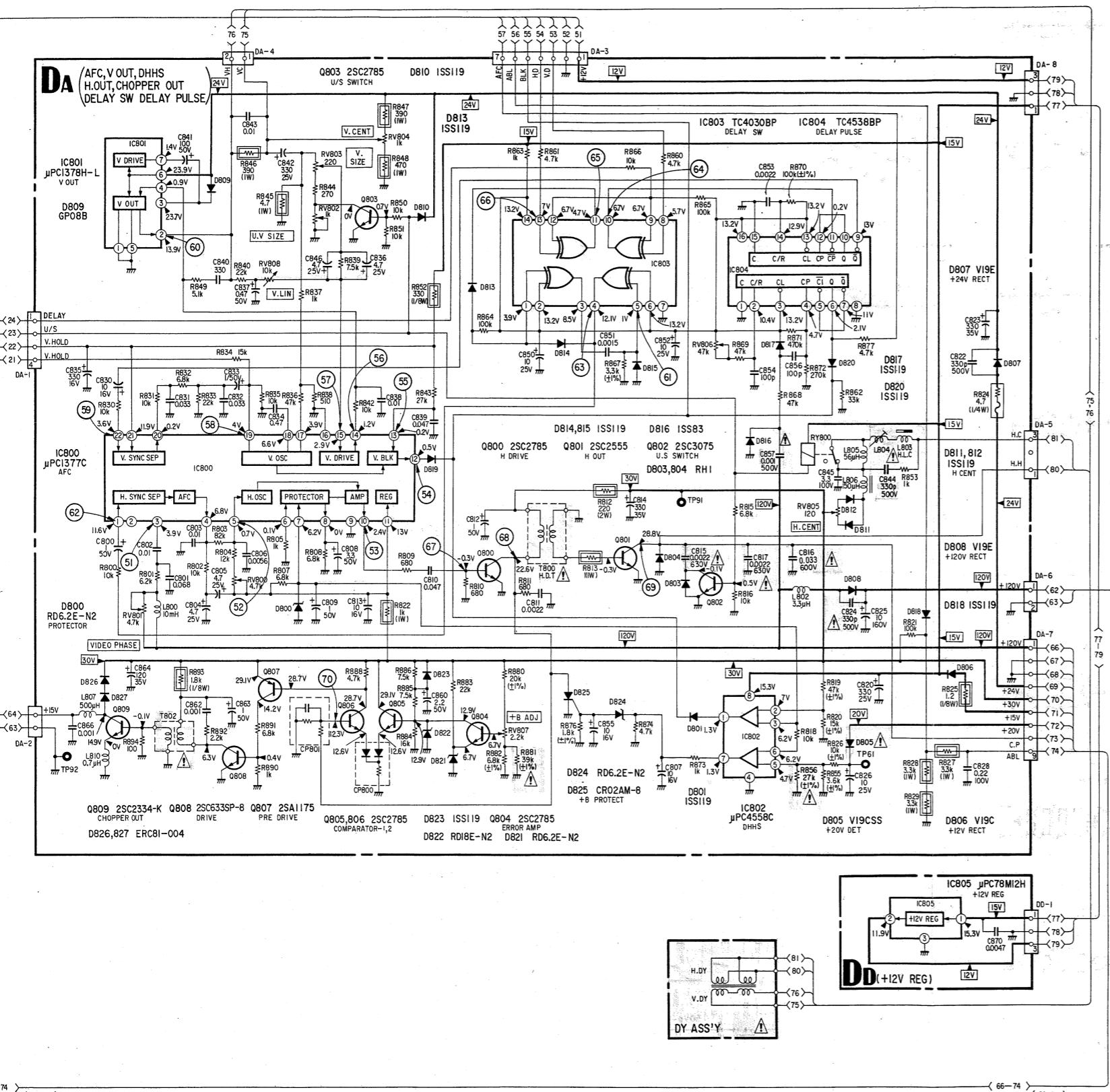
E

28,29

F

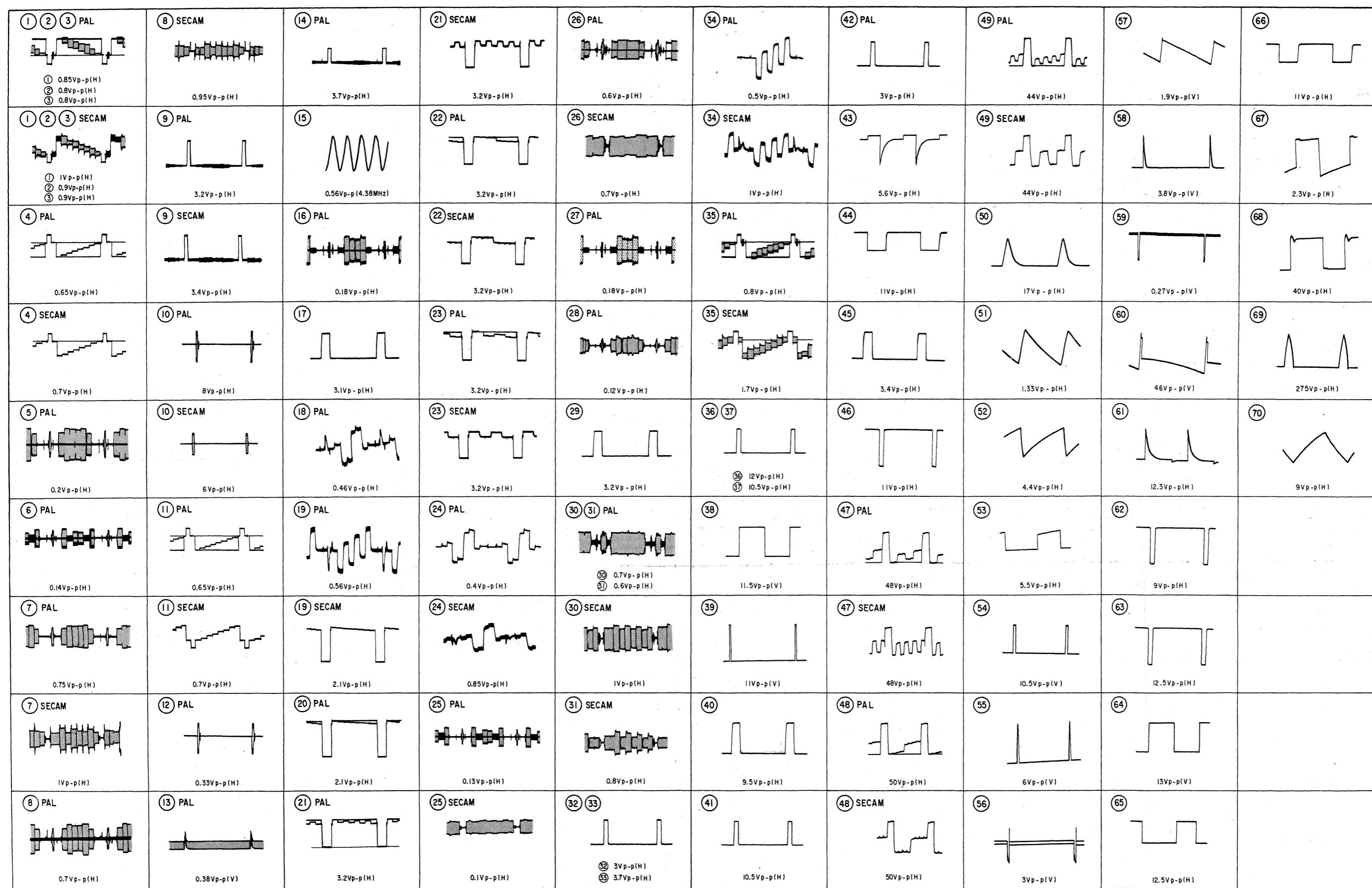
62,63

FA

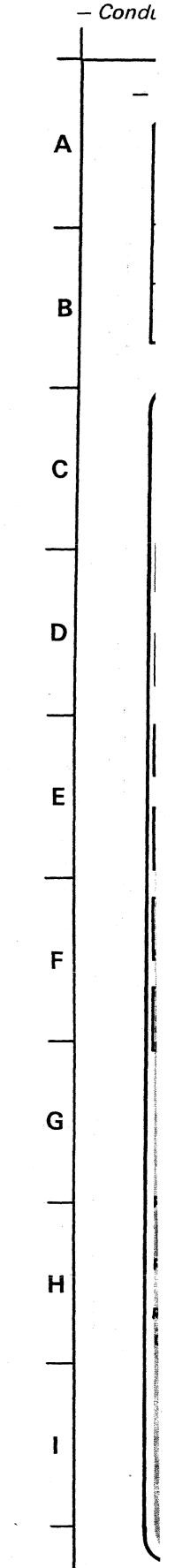


PVM-9020ME PVM-9020ME

4-4. WAVEFORMS



4-5. PRINTED



[VIDEO AMP  
Y. DEMOD, SECAM DEMOD]

A

BA

C

H B

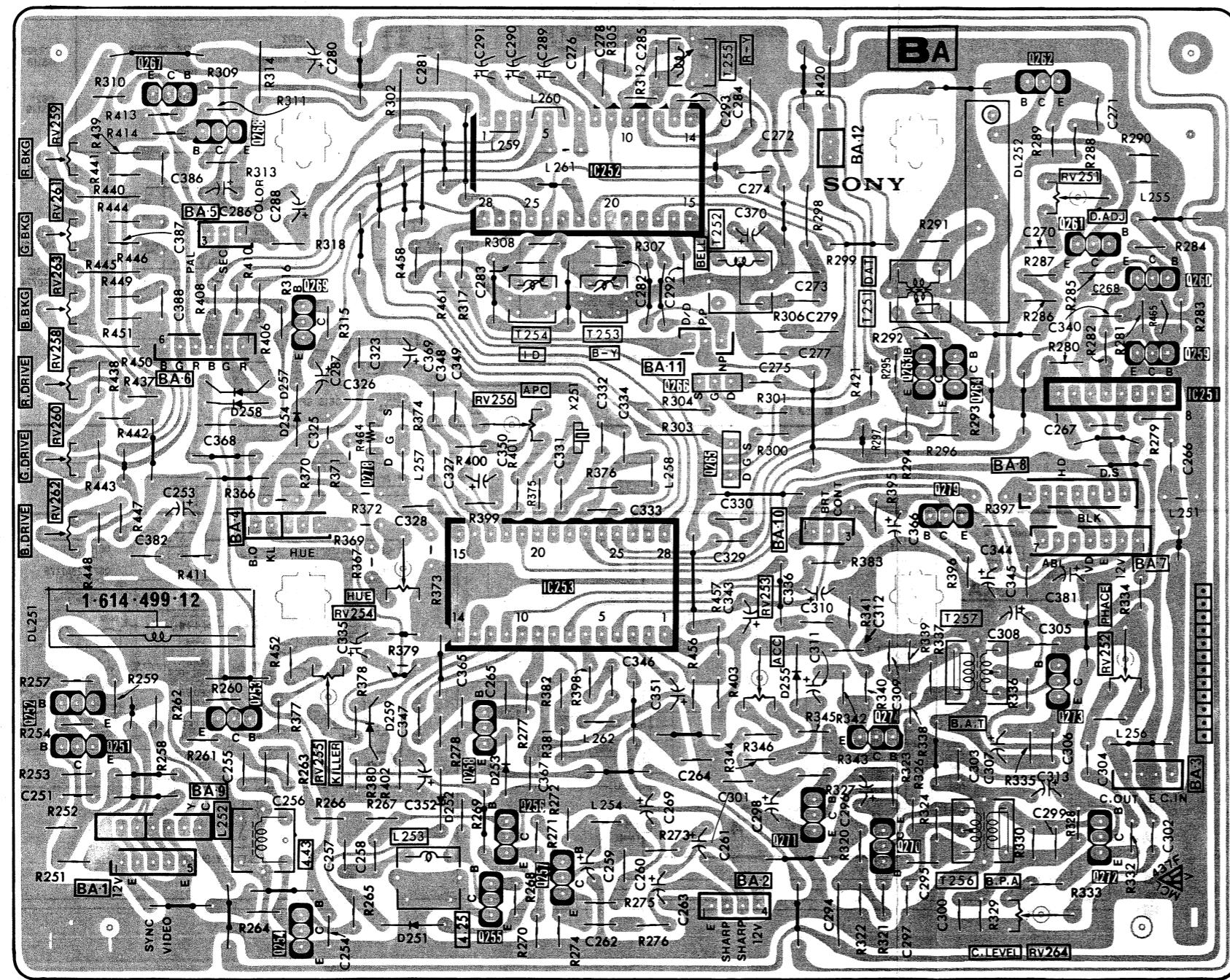
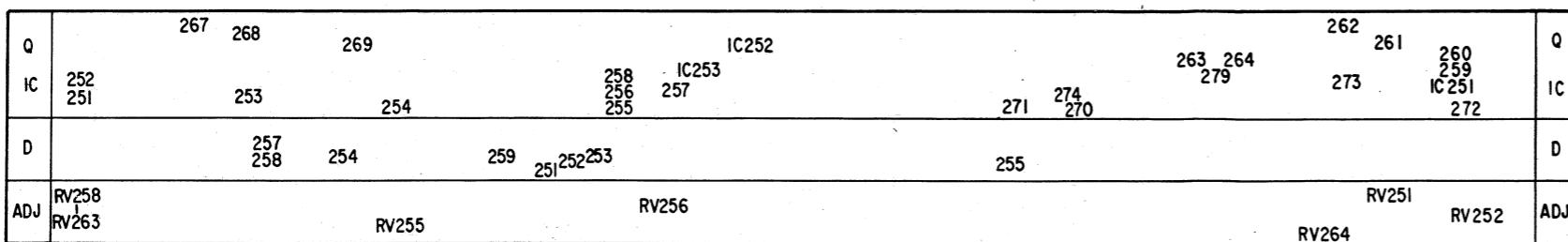
CUSTOMER  
CONTROL

#### **4-5. PRINTED WIRING BOARDS**

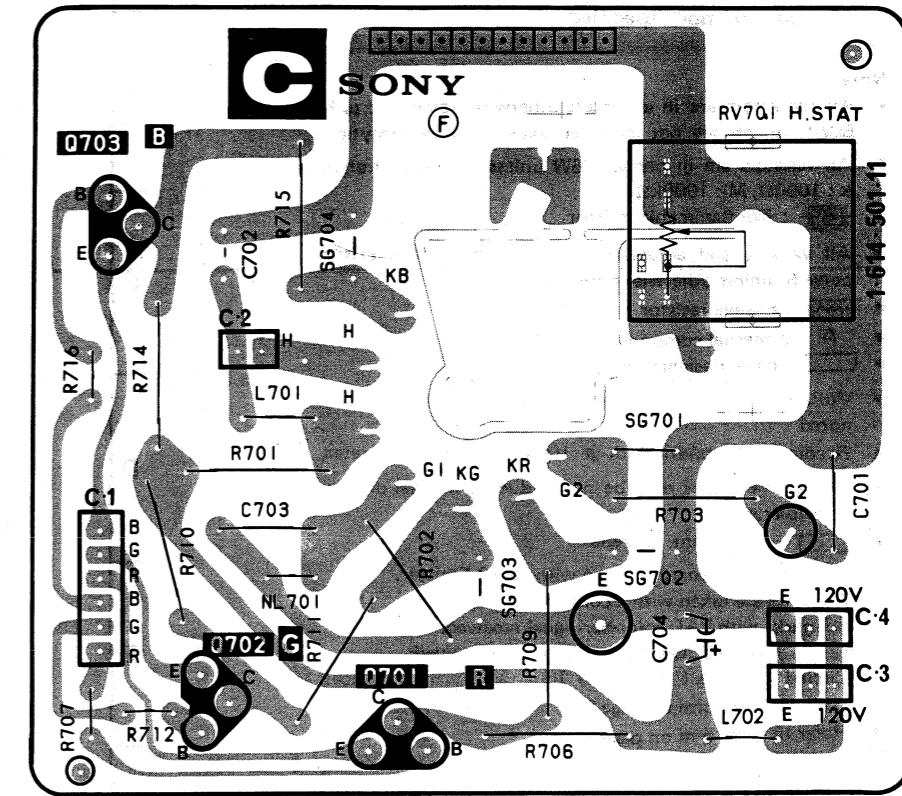
- Conductor Side -

**1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15**

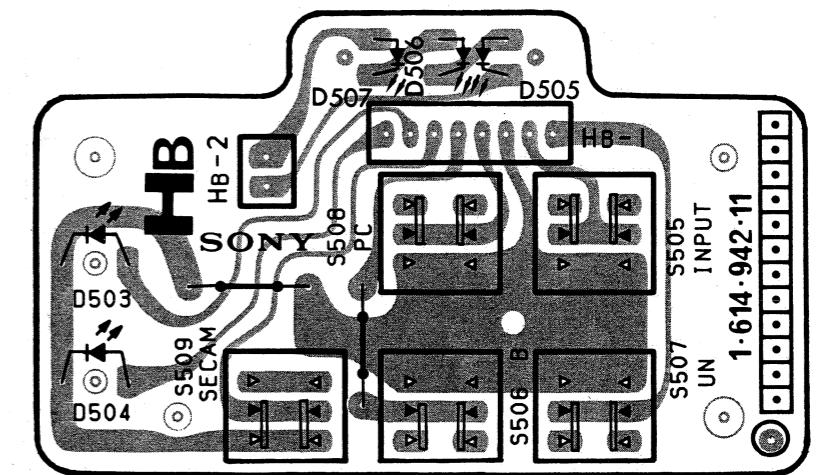
– BA Board –



- C Board -



- HB Board -



PVM-9020ME PVM-9020ME

AFC, V. OUT, DHHS  
H. OUT, CHOPPER OUT  
DELAY SW DELAY PULSE

DA

DA DC

[DEGAUSS]

DD

[+12V REG]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

- DA Board -

Q	IC	805 806 807 804	800	802	801	IC801	803	Q	IC
D		809 808	IC802		IC804	IC800	IC803	D	
ADJ		827 826 823 822 821 824 808 805 806 812 807 811 819 803 816 817 820 801	800	809	810	815 814 813 818	RV805	ADJ	

A

B

C

D

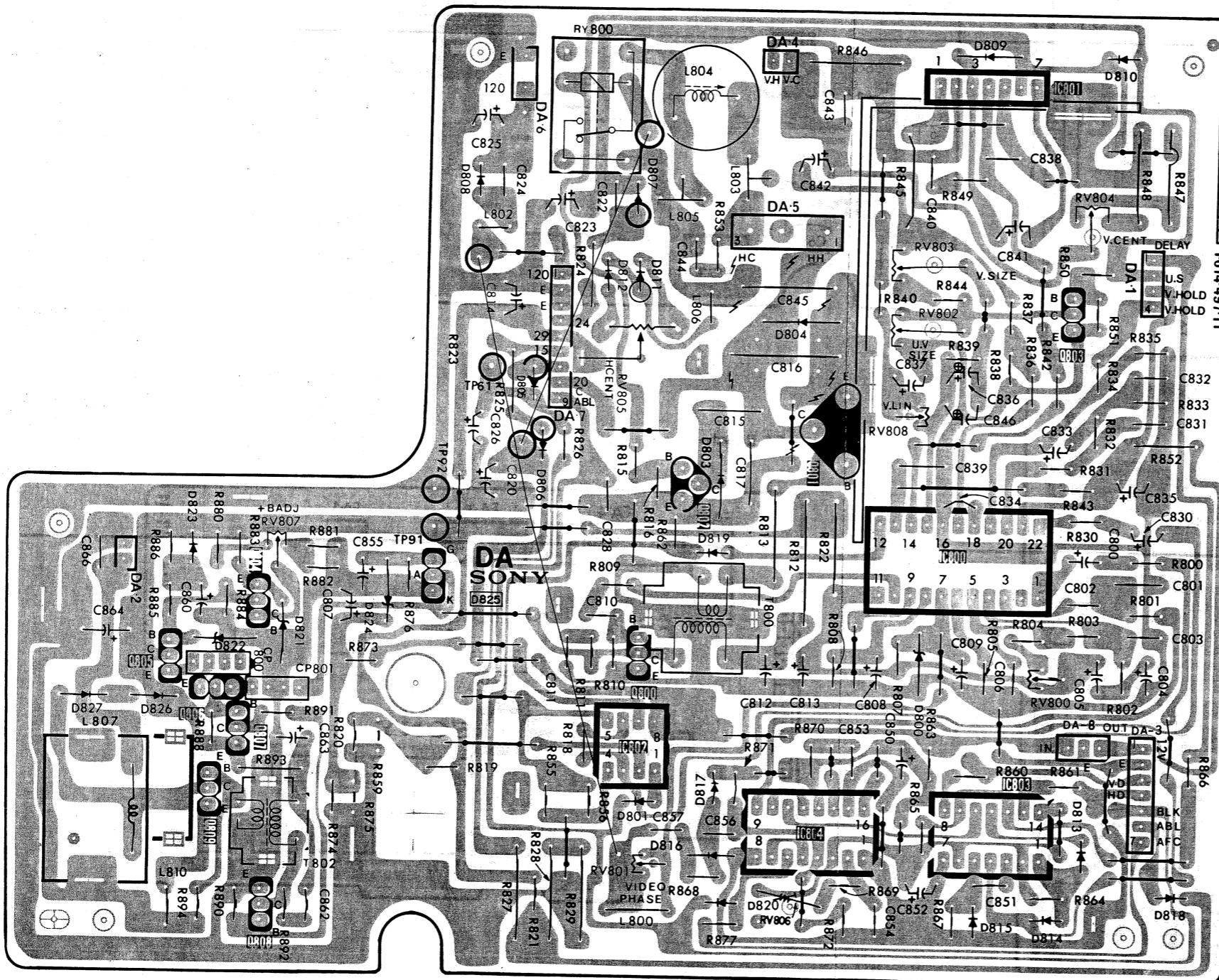
E

F

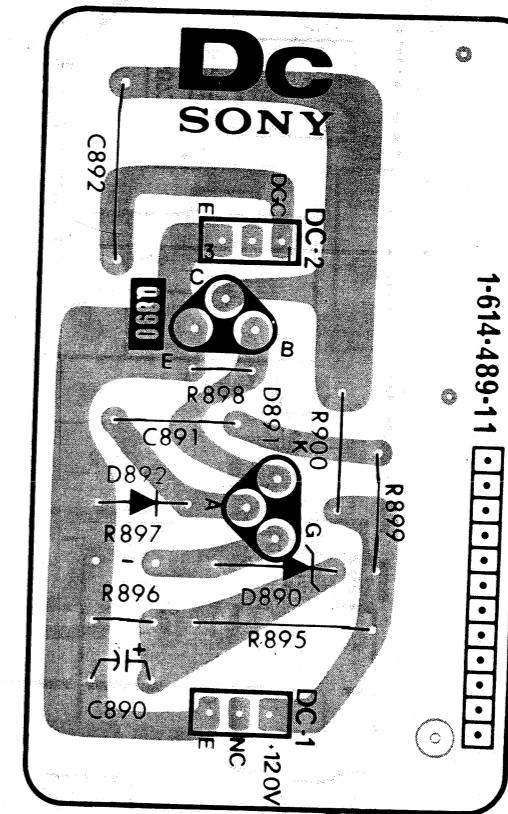
G

H

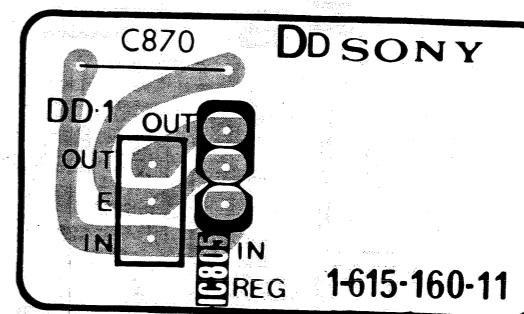
I



- DC Board -



- DD Board -



[POWER SUPPLY]

FB

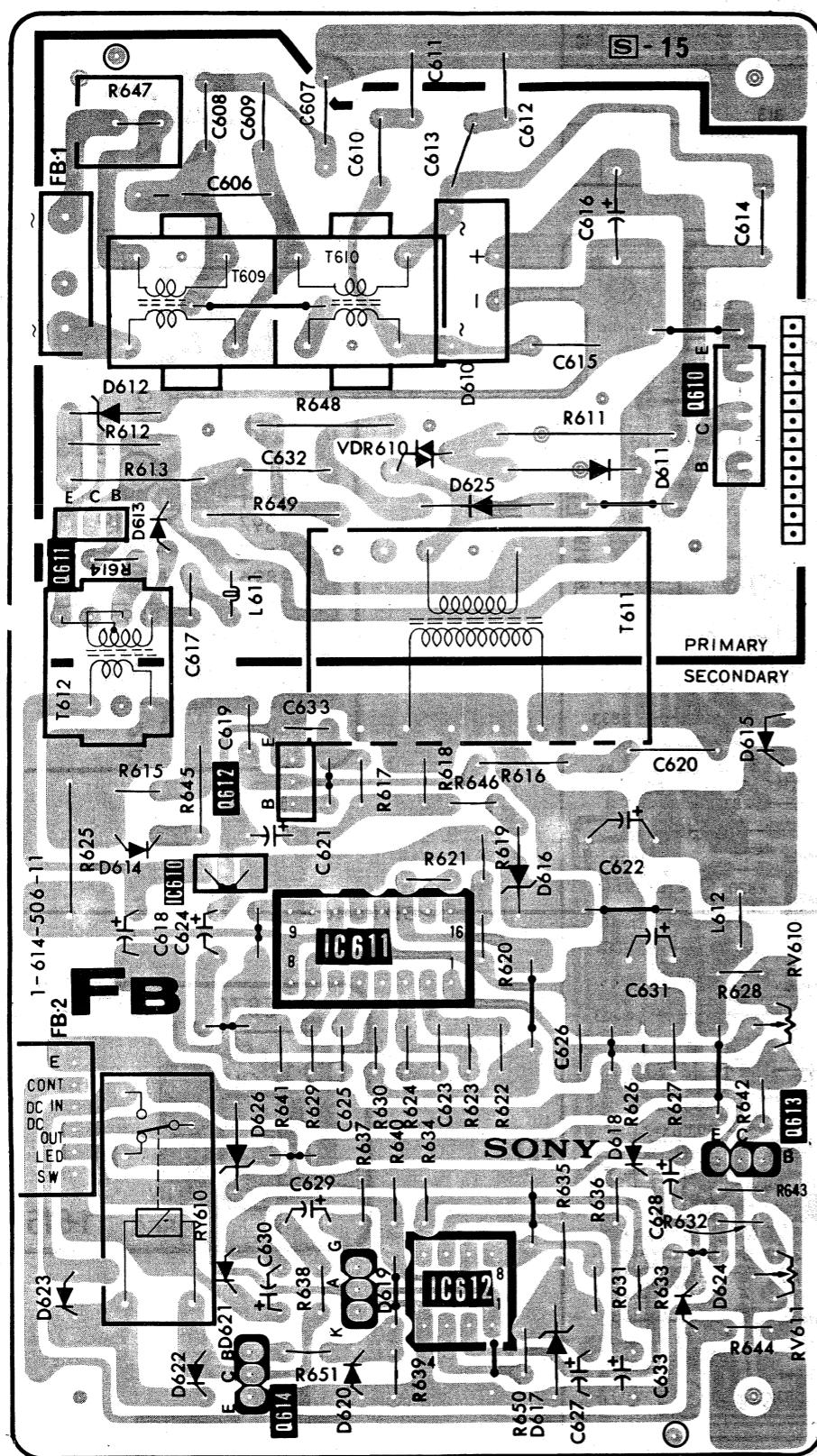
FC

FA

XA

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

— FB Board —



H/V MM, H MM  
SYNC, H.P, L.P SW

BB

[ VIDEO SWITCH  
AUDIO OUT

Q

1

2

3

4

5

6

7

A

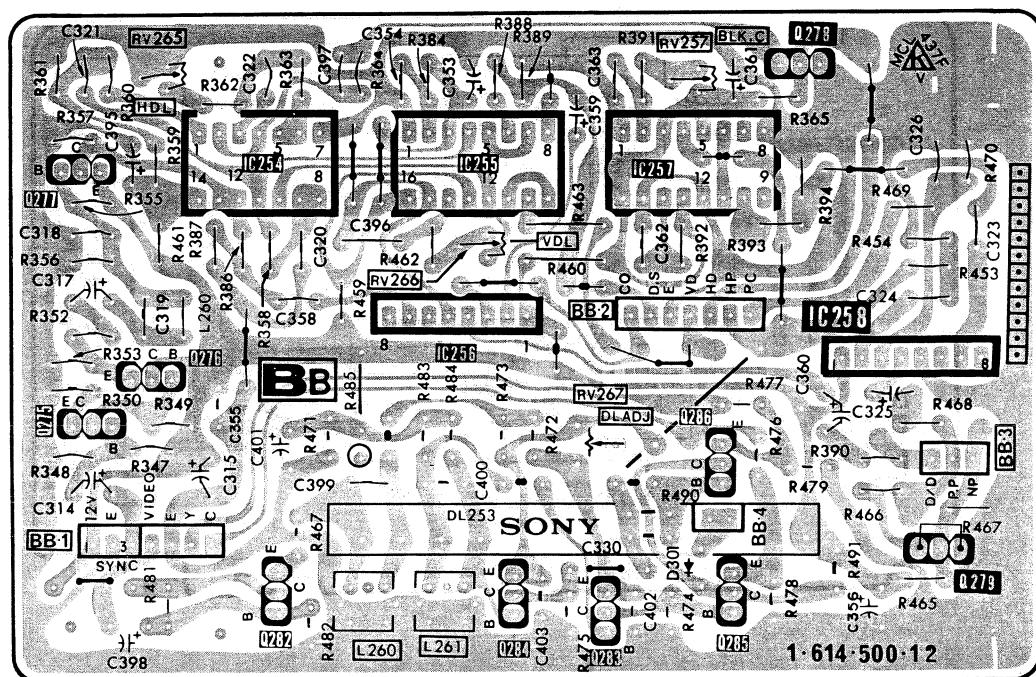
B

C

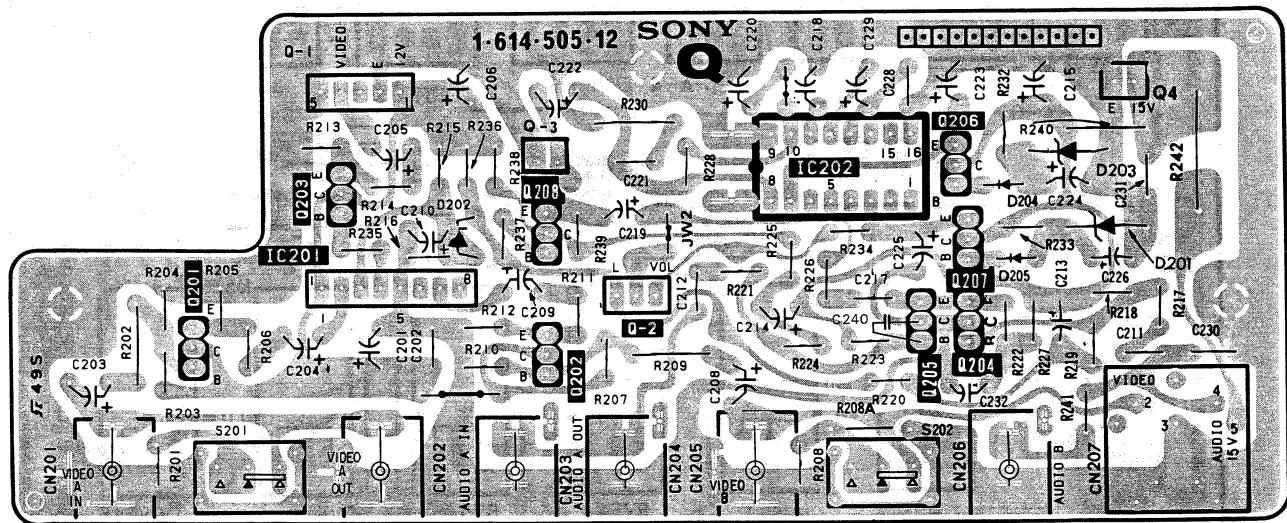
D

E

– BB Board –



– Q Board –



DB

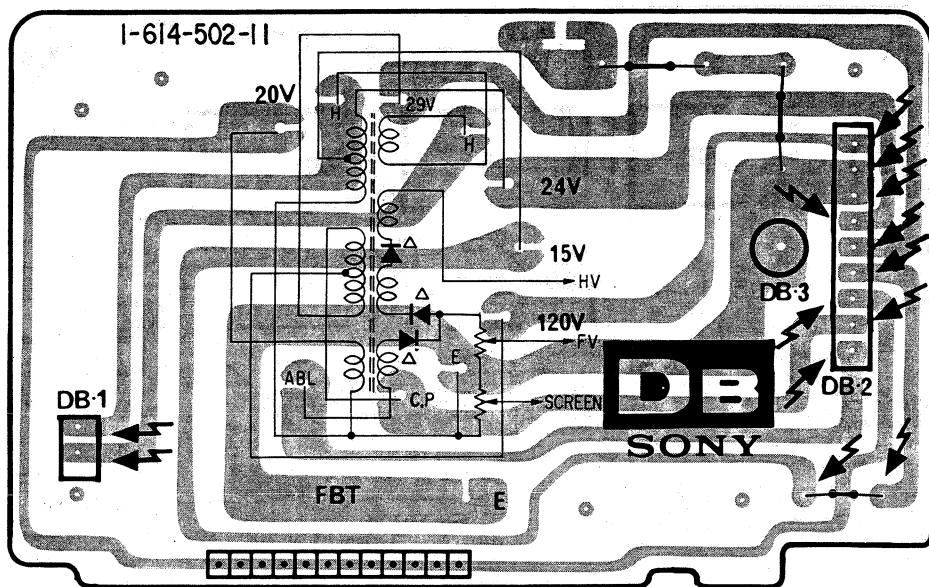
[F. B. T]

HA

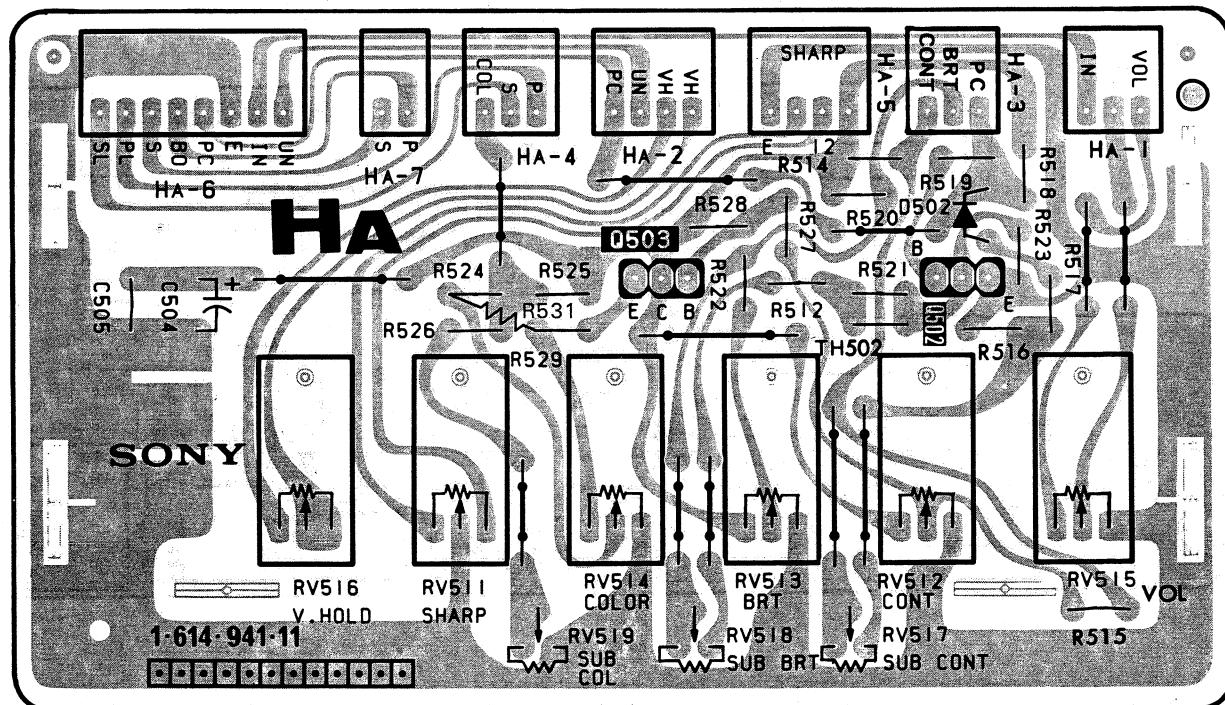
CUSTOMER  
CONTROL

1 | 2 | 3 | 4 | 5 | 6 | 7

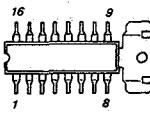
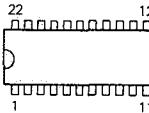
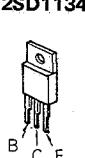
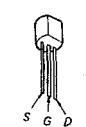
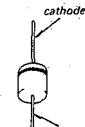
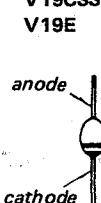
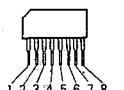
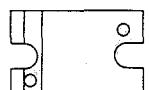
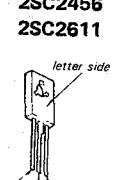
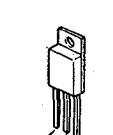
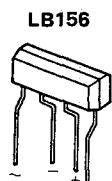
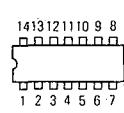
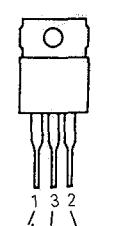
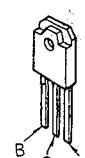
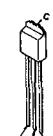
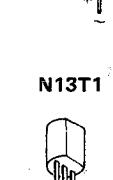
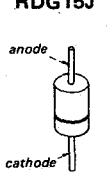
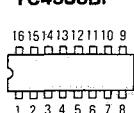
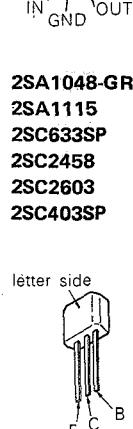
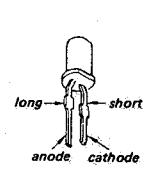
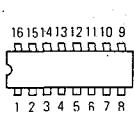
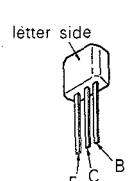
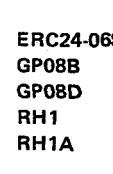
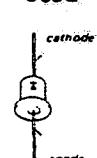
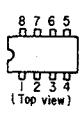
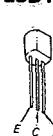
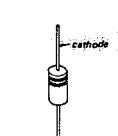
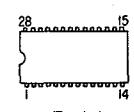
## — DB Board —



## — HA Board —



#### 4-6. SEMICONDUCTORS

<b>AN5250</b>	<b><math>\mu</math>PC1377C</b>	<b>2SC2334 2SD1134</b>	<b>2SK105A-30</b>	<b>ERC88-009</b>	<b>V19C V19CSS V19E</b>
 (Marking side view)	 (Top view)				
<b>CX20061</b>	<b><math>\mu</math>PC1378H-L</b>	<b>2SC2456 2SC2611</b>	<b>1SS83 1S1555 1S2076 ERC81-004 HZ11A HZ18 RD10E-N2 RD12E-B2 RD18E-N2 RD20E-N1 RD20E-N2 RD20E-N3 RD20E-N4 RD6.2E-N2 RD8.2E-N2</b>	<b>ESAB82-004 ESAC82-004</b>	<b>LB156</b>
 (Marking side view)	 (Top view)				
<b>HD14011BP TC4011BP TC4030BP <math>\mu</math>PD4030BC</b>	<b><math>\mu</math>PC78M12H</b>	<b>2SC2555</b>	<b>2SC3075</b>	<b>N13T1</b>	<b>RDG15J</b>
 (Top view)	 (Top view)				
<b>HD14538BP TC4538BP</b>	<b>2SA1048-GR 2SA1115 2SC633P 2SC2458 2SC2603 2SC403SP</b>	<b>2SD1403-CA</b>	<b>2SD774</b>	<b>CR02AM-4 CR02AM-8</b>	<b>TLG123A TLR123 TLY123</b>
 (Top view)					
<b>MB3759</b>	<b>letter side</b>	<b>2SD1403-CA</b>	<b>2SD774</b>	<b>ERC24-06S GP08B GP08D RH1 RH1A</b>	<b>U05G</b>
 (Top view)					
<b>BA4558 NJM2903D NJM4558D <math>\mu</math>PC4558C</b>	<b>2SA1175 2SC2785</b>	<b>2SD1015</b>	<b>2SD1015</b>		
 (Top view)					
<b><math>\mu</math>PC1364C <math>\mu</math>PC1365C</b>	<b>2SA933S 2SC1740S</b>				
 (Top view)					

## SECTION 5 EXPLODED VIEWS

## NOTE:

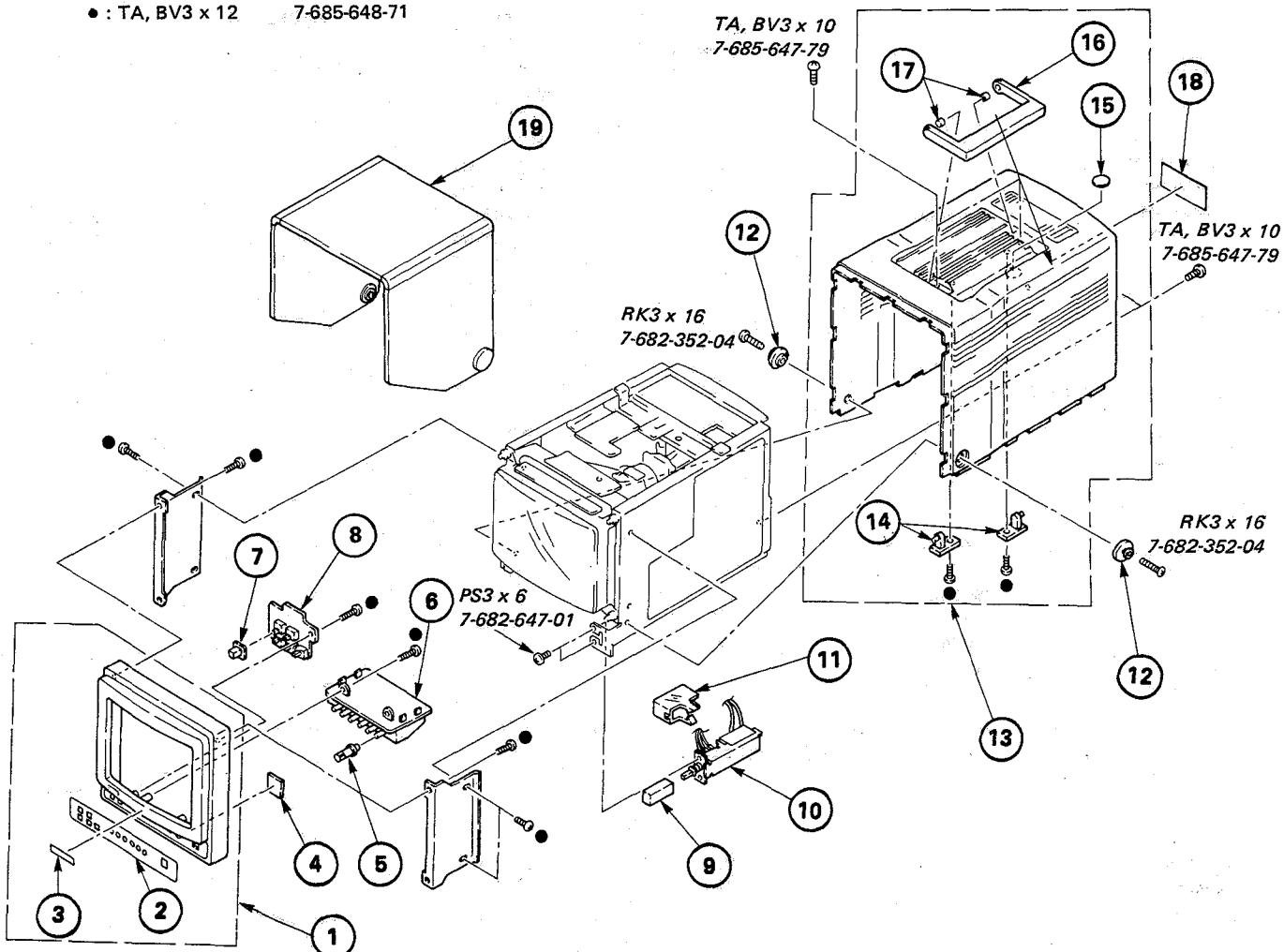
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

**5-1. BEZEL, CABINET**

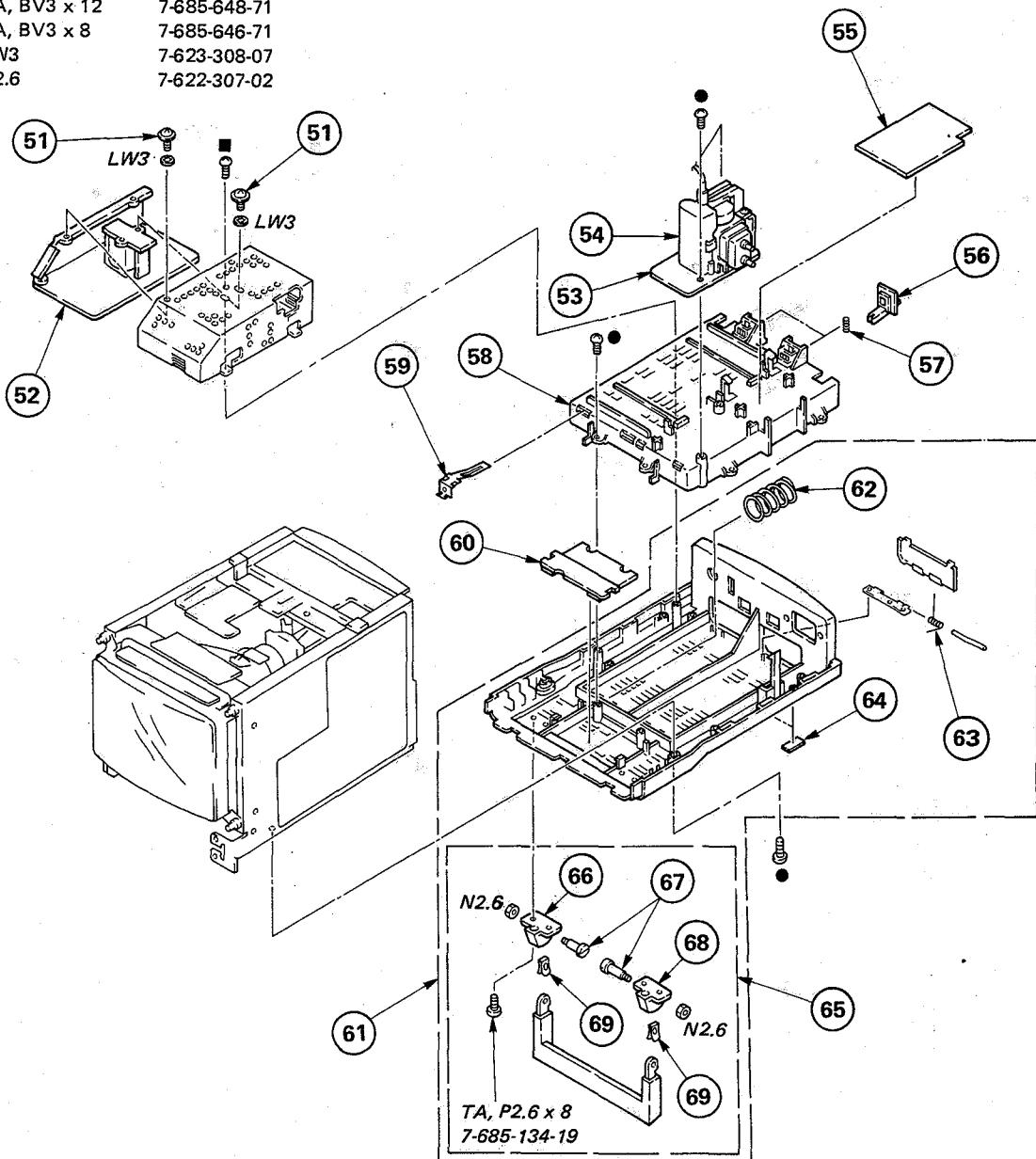
• : TA, BV3 x 12      7-685-648-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4374-805-2	BEZEL ASSY	2,3	11	*4-374-825-01	COVER, SWITCH	
2	4-374-830-11	LABEL, CONTROL		12	3-888-404-11	SHAFT, BELT	
3	3-566-707-11	EMBLEM, SONY		13	X-4374-807-1	CABINET ASSY	14-17
4	*1-614-496-11	XA BOARD		14	*4-361-411-01	SHAFT, HANDLE	
5	4-374-820-01	KNOB, CONTROL		15	9-911-840-XX	SPACER, SIDE	
6	*1-614-941-11	HA BOARD		16	4-361-428-21	HANDLE	
7	4-369-627-11	PUSH BUTTON		17	*4-361-410-00	SPACER, HANDLE	
8	*1-614-942-11	HB BOARD		18	*4-374-847-01	LABEL, MODEL NUMBER (LARGE)	
9	4-374-839-01	BUTTON (A)		19	4-374-831-01	HOOD (VF-501)	
10	A-1-570-201-11	SWITCH, PUSH (AC POWER)(1 KEY)					

## 5-2. BOTTOM CABINET

- : TA, BV3 x 12 7-685-648-71
- : TA, BV3 x 8 7-685-646-71
- LW3 7-623-308-07
- N2.6 7-622-307-02

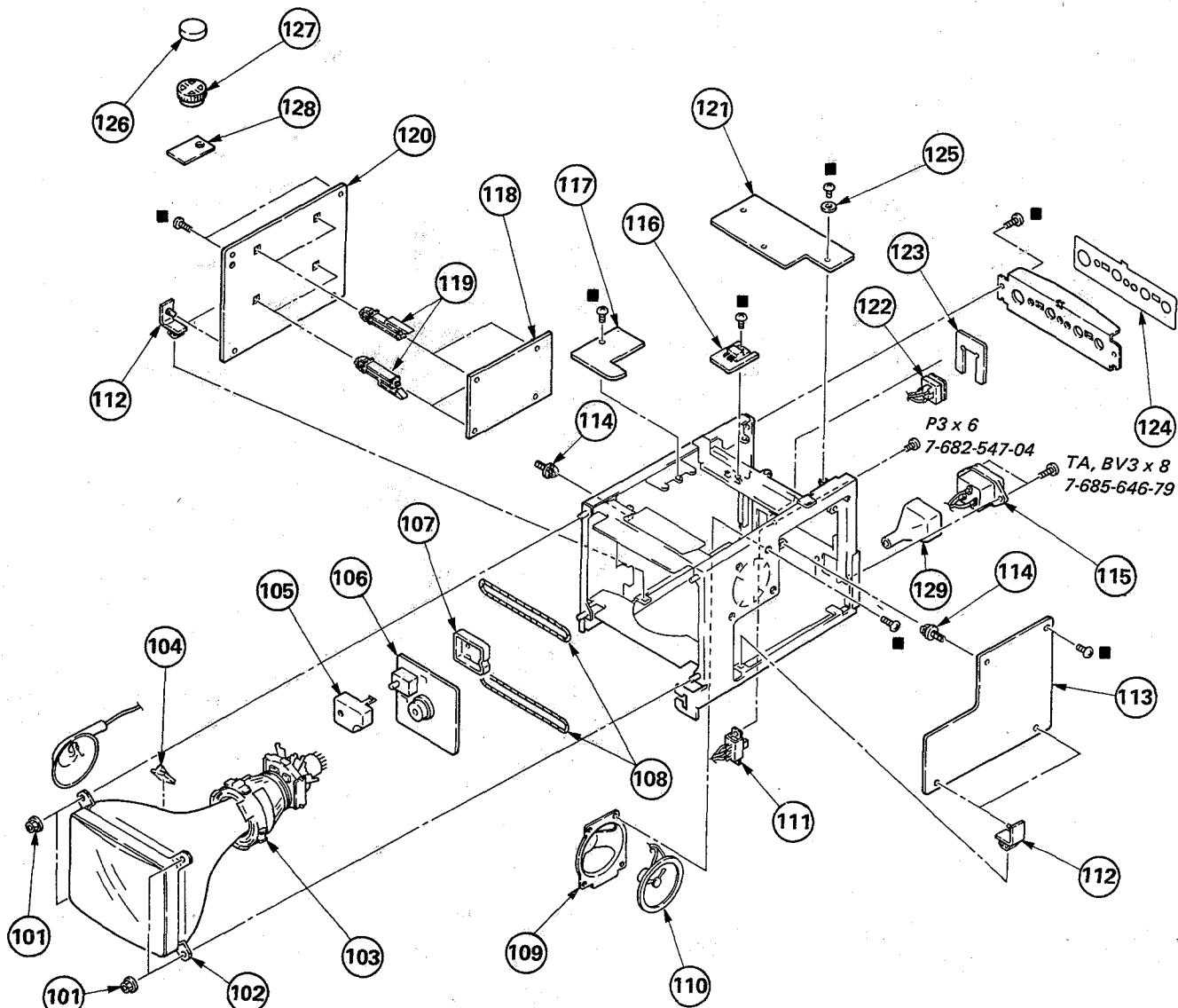


No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	3-701-809-31	SCREW, TERMINAL (M3X8)		61	X-4374-806-1	CABINET ASSY, BOTTOM	62-69
52	*A-1245-263-A	FB BOARD, COMPLETE		62	3-669-594-00	SPRING, COMPRESSION	
53	*1-615-502-11	DB BOARD		63	3-669-592-00	SPRING (A), TORSION	
54	△A-1-439-358-11	TRANSFORMER ASSY, FLYBACK		64	9-911-852-XX	CUSHION	
55	*1-614-503-11	FA BOARD		65	X-4374-802-1	LEG ASSY	
56	3-686-028-01	BUTTON, SLIDE		66	4-002-791-00	BRACKET (RIGHT), LEG	66-69
57	4-876-347-01	SPRING, COMPRESSION		67	4-002-789-00	SCREW	
58	*4-374-835-01	HOLDER, BATTERY		68	4-002-790-00	BRACKET (LEFT), LEG	
59	3-669-526-00	TERMINAL		69	4-002-732-02	SPRING	
60	*1-614-504-11	FC BOARD					

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

## 5-3. CHASSIS

■ : TA, BV3 x 8 7-685-646-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	4-304-511-00	NUT, FLANGE		116	*1-615-160-11	DD BOARD	
102	A-8-737-151-05	CRT (A20JKU10X)		117	*1-614-498-11	DC BOARD	
103	A-1-451-265-11	DEFLECTION YOKE (SY-167)		118	*A-1135-296-A	BB BOARD, COMPLETE	
104	4-309-369-00	SPACER, DEFLECTION YOKE		119	*3-657-516-00	SUPPORT, PC BOARD	
105	*4-374-822-01	COVER (A), CONTROL		120	*A-1135-295-A	BA BOARD, COMPLETE	
106	*A-1330-584-A	C BOARD, COMPLETE		121	*A-1270-160-A	Q BOARD, COMPLETE	
107	*4-374-806-01	COVER (B), CONTROL		122	1-507-465-00	JACK, POWER OUTSIDE	
108	A-1-426-043-12	COIL, DEGAUSSING		123	*4-374-801-01	STOPPER, JACK, DC	
109	*4-344-240-00	BRACKET, SPEAKER		124	4-374-829-01	LABEL, PANEL	
110	1-502-509-00	SPEAKER		125	4-308-030-00	WASHER	
111	A-1-516-046-11	SWITCH, SLIDE		126	1-452-032-00	MAGNET, DISK; 10MM Ø	
112	*3-701-832-00	HINGE, CIRCUIT BOARD		127	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
113	*A-1345-522-A	DA BOARD, COMPLETE		128	1-452-126-11	MAGNET	
114	*4-303-473-00	SUPPORT, PC		129	*4-601-466-11	COVER, 3P INLET	
115	A-1-509-547-11	3P INLET					

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

## SECTION 6 ELECTRICAL PARTS LIST

BA

NOTE:

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

• Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS  
• MF :  $\mu\text{F}$ , PF :  $\mu\mu\text{F}$

RESISTORS  
• All resistors are in ohms  
• F : nonflammable

COILS  
• MMH : mH, UH :  $\mu\text{H}$

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	*A-1135-295-A	BA BOARD, COMPLETE	*****	C289	1-123-608-00	ELECT	0.22MF 20% 50V
		CONNECTOR		C290	1-123-607-00	ELECT	0.1MF 20% 50V
BA1	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P		C291	1-123-608-00	ELECT	0.22MF 20% 50V
BA2	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C292	1-102-129-21	CERAMIC	0.01MF 10% 50V
BA4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C293	1-102-129-21	CERAMIC	0.01MF 10% 50V
BA5	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C294	1-161-313-00	CERAMIC	150PF 10% 50V
BA6	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C295	1-102-937-00	CERAMIC	4PF 0.5PF 50V
BA7	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		C296	1-123-332-00	ELECT	47MF 20% 25V
BA8	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		C297	1-101-006-21	CERAMIC	0.047MF 50V
BA9	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C298	1-123-356-00	ELECT	10MF 20% 16V
BA10	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C299	1-102-678-00	CERAMIC	100PF 5% 50V
BA11	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P		C300	1-101-006-21	CERAMIC	0.047MF 50V
BA12	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C301	1-101-004-00	CERAMIC	0.01MF 50V
	CAPACITOR			C302	1-101-004-00	CERAMIC	0.01MF 50V
				C303	1-101-004-00	CERAMIC	0.01MF 50V
C251	1-102-953-00	CERAMIC	18PF 5% 50V	C304	1-102-965-00	CERAMIC	39PF 5% 50V
C253	1-123-333-00	ELECT	100MF 20% 25V	C305	1-102-937-00	CERAMIC	4PF 0.5PF 50V
C254	1-101-004-00	CERAMIC	0.01MF 50V	C306	1-102-129-21	CERAMIC	0.01MF 10% 50V
C255	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C307	1-131-368-00	TANTALUM	3.3MF 10% 16V
C256	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C308	1-123-356-00	ELECT	10MF 20% 16V
C257	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C309	1-102-129-21	CERAMIC	0.01MF 10% 50V
C258	1-102-662-00	CERAMIC	7PF 0.5PF 50V	C310	1-102-129-21	CERAMIC	0.01MF 10% 50V
C259	1-123-318-00	ELECT	33MF 20% 16V	C311	1-123-380-00	ELECT	1MF 20% 50V
C260	1-101-361-00	CERAMIC	150PF 5% 50V	C312	1-101-006-21	CERAMIC	0.047MF 50V
C261	1-123-380-00	ELECT	1MF 20% 50V	C313	1-123-333-00	ELECT	100MF 20% 25V
C262	1-102-973-00	CERAMIC	100PF 5% 50V	C323	1-102-129-21	CERAMIC	0.01MF 10% 50V
C263	1-123-819-00	ELECT	33MF 20% 25V	C326	1-101-880-00	CERAMIC	47PF 5% 50V
C264	1-101-006-21	CERAMIC	0.047MF 50V	C327	1-102-944-00	CERAMIC	7PF 0.5PF 50V
C265	1-101-004-00	CERAMIC	0.01MF 50V	C330	1-102-129-21	CERAMIC	0.01MF 10% 50V
C266	1-101-004-00	CERAMIC	0.01MF 50V	C331	1-101-880-00	CERAMIC	47PF 5% 50V
C267	1-101-004-00	CERAMIC	0.01MF 50V	C332	1-101-880-00	CERAMIC	47PF 5% 50V
C268	1-101-004-00	CERAMIC	0.01MF 50V	C333	1-102-938-00	CERAMIC	1PF 0.5PF 50V
C269	1-123-318-00	ELECT	33MF 20% 16V	C334	1-102-963-00	CERAMIC	33PF 5% 50V
C270	1-102-129-21	CERAMIC	0.01MF 10% 50V	C335	1-123-607-00	ELECT	0.1MF 20% 50V
C271	1-102-129-21	CERAMIC	0.01MF 10% 50V	C336	1-123-380-00	ELECT	1MF 20% 50V
C272	1-101-006-21	CERAMIC	0.047MF 50V	C340	1-101-006-21	CERAMIC	0.047MF 50V
C273	1-102-679-00	CERAMIC	120PF 5% 50V	C343	1-123-356-00	ELECT	10MF 20% 25V
C274	1-121-257-00	ELECT	4.7MF 16V	C344	1-123-379-00	ELECT	0.47MF 20% 50V
C275	1-121-257-00	ELECT	4.7MF 16V				
C276	1-101-361-00	CERAMIC	150PF 5% 50V	C345	1-102-129-21	CERAMIC	0.01MF 10% 50V
C277	1-101-361-00	CERAMIC	150PF 5% 50V	C346	1-102-963-00	CERAMIC	33PF 5% 50V
C278	1-102-971-00	CERAMIC	82PF 5% 50V	C347	1-102-129-21	CERAMIC	0.01MF 10% 50V
C279	1-102-971-00	CERAMIC	82PF 5% 50V	C348	1-106-212-00	MYLAR	0.047MF 10% 100V
C280	1-123-333-00	ELECT	100MF 20% 25V	C349	1-106-212-00	MYLAR	0.047MF 10% 100V
C281	1-101-006-21	CERAMIC	0.047MF 50V	C350	1-123-381-00	ELECT	2.2MF 20% 50V
C282	1-102-892-00	CERAMIC	22PF 5% 50V	C351	1-123-369-00	ELECT	4.7MF 20% 50V
C284	1-106-220-00	MYLAR	0.1MF 10% 100V	C352	1-123-380-00	ELECT	1MF 20% 50V
C285	1-102-892-00	CERAMIC	22PF 5% 50V	C366	1-123-382-00	ELECT	3.3MF 20% 50V
C286	1-123-379-00	ELECT	0.47MF 20% 50V				
C287	1-123-381-00	ELECT	2.2MF 20% 50V	C367	1-101-004-00	CERAMIC	0.01MF 50V
C288	1-123-380-00	ELECT	1MF 20% 50V	C368	1-102-129-21	CERAMIC	0.01MF 10% 50V
				C369	1-123-333-00	ELECT	100MF 20% 25V

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C370	1-123-356-00	ELECT	10MF	20%	25V	Q266 8-729-115-30	TRANSISTOR 2SK105A-30
C381	1-123-333-00	ELECT	100MF	20%	25V	Q267 8-729-245-83	TRANSISTOR 2SC2458
C382	1-102-129-21	CERAMIC	0.01MF	10%	50V	Q268 8-729-245-83	TRANSISTOR 2SC2458
C386	1-102-820-00	CERAMIC	330PF	5%	50V	Q269 8-729-204-83	TRANSISTOR 2SA1048GR
C387	1-102-820-00	CERAMIC	330PF	5%	50V	Q270 8-729-603-50	TRANSISTOR 2SC403SP
C388	1-102-820-00	CERAMIC	330PF	5%	50V	Q271 8-729-245-83	TRANSISTOR 2SC2458
		<u>DIODE</u>				Q272 8-729-245-83	TRANSISTOR 2SC2458
D251	8-719-911-19	DIODE	ISS119			Q273 8-729-603-50	TRANSISTOR 2SC403SP
D252	8-719-911-19	DIODE	ISS119			Q274 8-729-245-83	TRANSISTOR 2SC2458
D253	8-719-911-19	DIODE	ISS119			Q279 8-729-245-83	TRANSISTOR 2SC2458
D254	8-719-911-19	DIODE	ISS119				<u>RESISTOR</u>
D255	8-719-911-19	DIODE	ISS119			R251 1-247-867-00	CARBON
D257	8-719-911-19	DIODE	ISS119			R252 1-247-851-00	CARBON
D258	8-719-911-19	DIODE	ISS119			R253 1-247-825-00	CARBON
D259	8-719-911-19	DIODE	ISS119			R254 1-247-833-00	CARBON
		<u>DELAY LINE</u>				R257 1-247-831-00	CARBON
DL251	1-415-330-00	DELAY LINE,	Y			R259 1-247-835-00	CARBON
DL252	1-415-122-31	DELAY LINE,	1H (PAL)			R260 1-247-835-00	CARBON
		<u>IC</u>				R261 1-247-831-00	CARBON
IC251	8-752-006-10	IC	CX20061			R262 1-247-831-00	CARBON
IC252	8-759-100-15	IC	UPC1364C			R263 1-247-819-00	CARBON
IC253	8-759-113-65	IC	UPC1365C			R264 1-247-855-00	CARBON
		<u>COIL</u>				R265 1-247-867-00	CARBON
L252	1-409-193-00	COIL	3.58MHZ TRAP			R266 1-247-831-00	CARBON
L253	1-409-193-00	COIL	3.58MHZ TRAP			R267 1-247-819-00	CARBON
L254	1-408-418-00	MICRO	INDUCTOR 56UH			R268 1-247-867-00	CARBON
L255	1-408-408-00	MICRO	INDUCTOR 8.2UH			R269 1-247-855-00	CARBON
L256	1-408-418-00	MICRO	INDUCTOR 56UH			R270 1-247-831-00	CARBON
L257	1-408-416-00	MICRO	INDUCTOR 39UH			R271 1-247-807-00	CARBON
L258	1-408-406-00	MICRO	INDUCTOR 5.6UH			R272 1-247-835-00	CARBON
L262	1-408-414-00	MICRO	INDUCTOR 27UH			R273 1-247-807-00	CARBON
		<u>TRANSISTOR</u>				R274 1-247-831-00	CARBON
Q251	8-729-603-50	TRANSISTOR	2SC403SP			R275 1-247-819-00	CARBON
Q252	8-729-245-83	TRANSISTOR	2SC2458			R276 1-247-819-00	CARBON
Q253	8-729-245-83	TRANSISTOR	2SC2458			R277 1-247-873-00	CARBON
Q254	8-729-245-83	TRANSISTOR	2SC2458			R278 1-247-877-00	CARBON
Q255	8-729-245-83	TRANSISTOR	2SC2458			R279 1-247-807-00	CARBON
Q256	8-729-245-83	TRANSISTOR	2SC2458			R280 1-247-861-00	CARBON
Q257	8-729-603-50	TRANSISTOR	2SC403SP			R281 1-247-855-00	CARBON
Q258	8-729-204-83	TRANSISTOR	2SA1048GR			R282 1-247-807-00	CARBON
Q259	8-729-245-83	TRANSISTOR	2SC2458			R283 1-247-867-00	CARBON
Q260	8-729-245-83	TRANSISTOR	2SC2458			R284 1-247-867-00	CARBON
Q261	8-729-204-83	TRANSISTOR	2SA1048GR			R285 1-247-879-00	CARBON
Q262	8-729-204-83	TRANSISTOR	2SA1048GR			R286 1-247-815-00	CARBON
Q263	8-729-245-83	TRANSISTOR	2SC2458			R287 1-247-815-00	CARBON
Q264	8-729-245-83	TRANSISTOR	2SC2458			R288 1-247-807-00	CARBON
Q265	8-729-115-30	TRANSISTOR	2SK105A-30			R289 1-247-823-00	CARBON
						R290 1-247-821-00	CARBON
						R291 1-247-827-00	CARBON
						R292 1-247-847-00	CARBON
						R293 1-247-847-00	CARBON

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R294	1-247-815-00	CARBON	220 5% 1/6W	R377	1-247-835-00	CARBON	1.5K 5% 1/6W
R295	1-247-815-00	CARBON	220 5% 1/6W	R378	1-247-887-00	CARBON	220K 5% 1/6W
R296	1-247-847-00	CARBON	4.7K 5% 1/6W	R380	1-247-879-00	CARBON	100K 5% 1/6W
R297	1-247-815-00	CARBON	220 5% 1/6W	R381	1-247-863-00	CARBON	22K 5% 1/6W
R298	1-247-133-00	CARBON	1.2K 5% 1/4W	R382	1-247-867-00	CARBON	33K 5% 1/6W
R299	1-247-819-00	CARBON	330 5% 1/6W	R383	1-247-831-00	CARBON	1K 5% 1/6W
R300	1-247-879-00	CARBON	100K 5% 1/6W	R395	1-247-857-00	CARBON	12K 5% 1/6W
R301	1-247-879-00	CARBON	100K 5% 1/6W	R396	1-247-863-00	CARBON	22K 5% 1/6W
R302	1-247-145-00	CARBON	3.9K 5% 1/4W	R397	1-247-823-00	CARBON	470 5% 1/6W
R303	1-247-115-00	CARBON	220 5% 1/4W	R398	1-247-831-00	CARBON	1K 5% 1/6W
R304	1-247-115-00	CARBON	220 5% 1/4W	R399	1-249-421-11	CARBON	2.2K 5% 1/6W
R305	1-247-853-00	CARBON	8.2K 5% 1/6W	R400	1-247-865-00	CARBON	27K 5% 1/6W
R306	1-247-853-00	CARBON	8.2K 5% 1/6W	R401	1-247-865-00	CARBON	27K 5% 1/6W
R307	1-247-843-00	CARBON	3.3K 5% 1/6W	R402	1-247-877-00	CARBON	82K 5% 1/6W
R308	1-247-853-00	CARBON	8.2K 5% 1/6W	R403	1-247-847-00	CARBON	4.7K 5% 1/6W
R309	1-247-867-00	CARBON	33K 5% 1/6W	R406	1-247-821-00	CARBON	390 5% 1/6W
R310	1-247-833-00	CARBON	1.2K 5% 1/6W	R408	1-247-821-00	CARBON	390 5% 1/6W
R311	1-247-873-00	CARBON	56K 5% 1/6W	R410	1-247-821-00	CARBON	390 5% 1/6W
R312	1-249-421-11	CARBON	2.2K 5% 1/6W	R411	1-247-871-00	CARBON	47K 5% 1/6W
R313	1-247-879-00	CARBON	100K 5% 1/6W	R413	1-247-863-00	CARBON	22K 5% 1/6W
R314	1-210-825-00	SOLID	3.3M 5% 1/4W	R414	1-247-867-00	CARBON	33K 5% 1/6W
R315	1-247-855-00	CARBON	10K 5% 1/6W	R420	1-247-171-00	CARBON	47K 5% 1/4W
R316	1-247-833-00	CARBON	1.2K 5% 1/6W	R421	1-247-889-00	CARBON	270K 5% 1/6W
R317	1-247-807-00	CARBON	100 5% 1/6W	R437	1-247-845-00	CARBON	3.9K 5% 1/6W
R318	1-247-831-00	CARBON	1K 5% 1/6W	R438	1-247-823-00	CARBON	470 5% 1/6W
R320	1-247-843-00	CARBON	3.3K 5% 1/6W	R439	1-247-791-00	CARBON	22 5% 1/6W
R321	1-247-811-00	CARBON	150 5% 1/6W	R440	1-247-147-00	CARBON	4.7K 5% 1/4W
R322	1-247-837-00	CARBON	1.8K 5% 1/6W	R441	1-247-831-00	CARBON	1K 5% 1/6W
R323	1-247-827-00	CARBON	680 5% 1/6W	R442	1-247-845-00	CARBON	3.9K 5% 1/6W
R324	1-247-831-00	CARBON	1K 5% 1/6W	R443	1-247-823-00	CARBON	470 5% 1/6W
R326	1-247-823-00	CARBON	470 5% 1/6W	R444	1-247-791-00	CARBON	22 5% 1/6W
R327	1-249-421-11	CARBON	2.2K 5% 1/6W	R445	1-247-147-00	CARBON	4.7K 5% 1/4W
R328	1-247-855-00	CARBON	10K 5% 1/6W	R446	1-247-831-00	CARBON	1K 5% 1/6W
R329	1-247-847-00	CARBON	4.7K 5% 1/6W	R447	1-247-845-00	CARBON	3.9K 5% 1/6W
R330	1-247-833-00	CARBON	1.2K 5% 1/6W	R448	1-247-823-00	CARBON	470 5% 1/6W
R332	1-247-823-00	CARBON	470 5% 1/6W	R449	1-247-791-00	CARBON	22 5% 1/6W
R333	1-247-815-00	CARBON	220 5% 1/6W	R450	1-247-147-00	CARBON	4.7K 5% 1/4W
R334	1-247-843-00	CARBON	3.3K 5% 1/6W	R451	1-247-831-00	CARBON	1K 5% 1/6W
R335	1-249-421-11	CARBON	2.2K 5% 1/6W	R452	1-247-847-00	CARBON	4.7K 5% 1/6W
R336	1-247-823-00	CARBON	470 5% 1/6W	R458	1-247-841-00	CARBON	2.7K 5% 1/6W
R337	1-247-827-00	CARBON	680 5% 1/6W	R461	1-247-849-00	CARBON	5.6K 5% 1/6W
R338	1-247-853-00	CARBON	8.2K 5% 1/6W	R464	1-247-827-00	CARBON	680 5% 1/6W
R339	1-247-855-00	CARBON	10K 5% 1/6W	R465	1-247-867-00	CARBON	33K 5% 1/6W
R340	1-249-421-11	CARBON	2.2K 5% 1/6W				<u>VARIABLE RESISTOR</u>
R341	1-247-807-00	CARBON	100 5% 1/6W				
R342	1-247-807-00	CARBON	100 5% 1/6W	RV251	1-228-719-00	RES, ADJ, CERAMIC	CARBON 470
R343	1-247-883-00	CARBON	150K 5% 1/6W	RV252	1-228-723-00	RES, ADJ, CERAMIC	CARBON 4.7K
R344	1-247-855-00	CARBON	10K 5% 1/6W	RV253	1-228-719-00	RES, ADJ, CERAMIC	CARBON 470
R345	1-247-843-00	CARBON	3.3K 5% 1/6W	RV255	1-228-722-00	RES, ADJ, CERAMIC	CARBON 3.3K
R346	1-247-791-00	CARBON	22 5% 1/6W	RV256	1-228-725-00	RES, ADJ, CERAMIC	CARBON 22K
R374	1-247-823-00	CARBON	470 5% 1/6W	RV258	1-224-660-21	RES, ADJ, METAL FILM	1K
R375	1-247-827-00	CARBON	680 5% 1/6W	RV259	1-224-493-00	RES, ADJ, METAL FILM	10K
R376	1-247-831-00	CARBON	1K 5% 1/6W	RV260	1-224-660-21	RES, ADJ, METAL FILM	1K

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark		
RV261	1-224-493-00	RES, ADJ, METAL FILM 10K		C397	1-102-973-00	CERAMIC	100PF		
RV262	1-224-660-21	RES, ADJ, METAL FILM 1K				DIODE	5%		
RV263	1-224-493-00	RES, ADJ, METAL FILM 10K		D301	8-719-911-19	DIODE 1SS119	50V		
RV264	1-228-720-00	RES, ADJ, CERAMIC CARBON 1K				IC			
<u>TRANSFORMER</u>									
T251	1-404-081-00	TRANSFOMER, DELAY ADJUST		IC254	8-759-240-11	IC TC4011BP			
T252	1-404-146-00	TRANSFORMER		IC255	8-759-345-38	IC HD14538BP			
T253	1-408-532-00	COIL, VARIABLE		IC256	8-752-006-10	IC CX20061			
T254	1-408-513-00	COIL (VARIABLE)		IC257	8-759-345-38	IC HD14538BP			
T255	1-408-532-00	COIL, VARIABLE		IC258	8-752-006-10	IC CX20061			
T256	1-425-794-00	BPT-2				COIL			
T257	1-405-372-00	COIL BAT		L260	1-408-417-00	MICRO INDUCTOR 47UH			
<u>CRYSTAL</u>									
X251	1-527-345-00	CRYSTAL, OSC				TRANSISTOR			
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*A-1135-296-A	BB BOARD, COMPLETE			Q275	8-729-603-30	TRANSISTOR 2SC403SP-3			
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<u>CONNECTOR</u>									
BB1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R347	1-247-865-00	CARBON	27K 5% 1/6W		
BB2	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		R348	1-247-841-00	CARBON	2.7K 5% 1/6W		
BB3	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P		R349	1-247-831-00	CARBON	1K 5% 1/6W		
BB4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R350	1-247-831-00	CARBON	1K 5% 1/6W		
<u>CAPACITOR</u>									
C314	1-123-333-00	ELECT	100MF	20%	25V	R353	1-247-831-00	CARBON	1K 5% 1/6W
C315	1-123-333-00	ELECT	100MF	20%	25V	R355	1-247-865-00	CARBON	27K 5% 1/6W
C317	1-123-381-00	ELECT	2.2MF	20%	50V	R356	1-247-893-00	CARBON	390K 5% 1/6W
C318	1-102-119-00	CERAMIC	0.0015MF	10%	50V	R357	1-247-823-00	CARBON	470 5% 1/6W
C319	1-102-971-00	CERAMIC	82PF	5%	50V	R358	1-247-865-00	CARBON	27K 5% 1/6W
C320	1-106-184-00	MYLAR	0.0033MF	10%	100V	R359	1-247-847-00	CARBON	4.7K 5% 1/6W
C321	1-101-361-00	CERAMIC	150PF	5%	50V	R360	1-247-841-00	CARBON	2.7K 5% 1/6W
C322	1-106-188-00	MYLAR	0.0047MF	10%	100V	R361	1-247-863-00	CARBON	22K 5% 1/6W
C323	1-102-129-21	CERAMIC	0.01MF	10%	50V	R362	1-247-859-00	CARBON	15K 5% 1/6W
C324	1-102-129-21	CERAMIC	0.01MF	10%	50V	R363	1-247-831-00	CARBON	1K 5% 1/6W
C325	1-123-356-00	ELECT	10MF	20%	25V	R364	1-247-871-00	CARBON	47K 5% 1/6W
C326	1-102-129-21	CERAMIC	0.01MF	10%	50V	R365	1-249-421-11	CARBON	2.2K 5% 1/6W
C330	1-102-973-00	CERAMIC	100PF	5%	50V	R384	1-247-867-00	CARBON	33K 5% 1/6W
C353	1-123-356-00	ELECT	10MF	20%	25V	R386	1-247-841-00	CARBON	2.7K 5% 1/6W
C354	1-101-888-00	CERAMIC	68PF	5%	50V	R387	1-247-835-00	CARBON	1.5K 5% 1/6W
C355	1-102-129-21	CERAMIC	0.01MF	10%	50V	R388	1-247-841-00	CARBON	2.7K 5% 1/6W
C356	1-123-333-00	ELECT	100MF	20%	25V	R389	1-249-421-11	CARBON	2.2K 5% 1/6W
C358	1-102-824-00	CERAMIC	470PF	5%	50V	R390	1-247-807-00	CARBON	100 5% 1/6W
C359	1-123-356-00	ELECT	10MF	20%	25V	R391	1-247-871-00	CARBON	47K 5% 1/6W
C360	1-123-380-00	ELECT	1MF	20%	50V	R392	1-247-869-00	CARBON	39K 5% 1/6W
C361	1-123-356-00	ELECT	10MF	20%	25V	R393	1-247-841-00	CARBON	2.7K 5% 1/6W
C362	1-102-980-00	CERAMIC	270PF	5%	50V	R394	1-247-835-00	CARBON	1.5K 5% 1/6W
C363	1-102-822-00	CERAMIC	390PF	5%	50V	R453	1-247-855-00	CARBON	10K 5% 1/6W
C395	1-123-356-00	ELECT	10MF	20%	25V	R454	1-247-855-00	CARBON	10K 5% 1/6W
C396	1-108-599-00	MYLAR	0.068MF	5%	50V	R459	1-247-831-00	CARBON	1K 5% 1/6W

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R460	1-246-463-25	CARBON	390 5% 1/4W	Q672	8-729-204-83	TRANSISTOR 2SA1048GR	
R461	1-247-831-00	CARBON	1K 5% 1/6W				
R462	1-247-879-00	CARBON	100K 5% 1/6W				
R463	1-247-107-00	CARBON	100 5% 1/4W				
R465	1-249-421-11	CARBON	2.2K 5% 1/6W				
R466	1-247-863-00	CARBON	22K 5% 1/6W	R660	1-212-361-00	METAL OXIDE	1.2 5% 1W F
R467	1-247-852-00	CARBON	7.5K 5% 1/6W	R661	1-247-831-00	CARBON	1K 5% 1/6W
R468	1-247-815-00	CARBON	220 5% 1/6W	R662	1-247-855-00	CARBON	10K 5% 1/6W
R469	1-247-873-00	CARBON	56K 5% 1/6W	R664	1-249-421-11	CARBON	2.2K 5% 1/6W
R470	1-247-879-00	CARBON	100K 5% 1/6W	R665	1-247-819-00	CARBON	330 5% 1/6W
R490	1-247-857-00	CARBON	12K 5% 1/6W	R670	1-212-361-00	METAL OXIDE	1.2 5% 1W F
R491	1-247-847-00	CARBON	4.7K 5% 1/6W	R671	1-247-831-00	CARBON	1K 5% 1/6W
				R672	1-247-855-00	CARBON	10K 5% 1/6W
				R674	1-249-421-11	CARBON	2.2K 5% 1/6W
				R675	1-247-819-00	CARBON	330 5% 1/6W
<u>VARIABLE RESISTOR</u>							
RV257	1-226-775-00	RES, ADJ, METAL GLAZE	100K				
RV265	1-226-773-00	RES, ADJ, METAL GLAZE	22K				
RV266	1-226-775-00	RES, ADJ, METAL GLAZE	100K				
*****							
*1-614-504-11	FC BOARD		*****				
*****							
3-618-225-00	NUT, PLATE						
*4-026-251-00	SPACER, INSULATING						
4-313-734-00	BUSHING TR, Y						
<u>CAPACITOR</u>							
C660	1-161-047-00	CERAMIC	0.0047MF	10%	25V		
C670	1-161-047-00	CERAMIC	0.0047MF	10%	25V		
<u>DIODE</u>							
D660	8-719-102-84	DIODE RD8.2E-N2					
D661	8-719-102-90	DIODE RD10E-N2					
D662	8-719-911-19	DIODE ISS119					
D663	8-719-911-55	DIODE U05G					
D664	8-719-920-40	DIODE ESAC82-004					
D670	8-719-102-84	DIODE RD8.2E-N2					
D671	8-719-102-90	DIODE RD10E-N2					
D672	8-719-911-19	DIODE ISS119					
D673	8-719-911-55	DIODE U05G					
<u>CONNECTOR</u>							
FC1	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P					
FC2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P					
FC3	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P					
FC4	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P					
<u>TRANSISTOR</u>							
Q660	8-729-313-42	TRANSISTOR 2SD1134					
Q661	8-729-204-83	TRANSISTOR 2SA1048GR					
Q662	8-729-204-83	TRANSISTOR 2SA1048GR					
Q670	8-729-313-42	TRANSISTOR 2SD1134					
Q671	8-729-204-83	TRANSISTOR 2SA1048GR					
<u>RESISTOR</u>							
R600	1-202-724-00	SOLID		2.7M	10%	1/2W	
R601	1-247-824-00	CARBON		510	5%	1/6W	
R602	1-247-831-00	CARBON		1K	5%	1/6W	
R603	1-247-837-00	CARBON		1.8K	5%	1/6W	
R604	1-247-289-00	CARBON		8.2M	5%	1W	

NOTE:

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FB

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*A-1245-263-A	FB BOARD, COMPLETE		*****	D624	8-719-911-19	DIODE ISS119	
*2-430-232-00	INSULATOR (SR12E), TRANSISTOR			D625	8-719-924-06	DIODE ERC24-06S	
*4-374-844-01	HEAT SINK (SRT)			D626	8-719-103-21	DIODE RD20E-N2	
*4-374-845-01	BAND (SRT)					CONNECTOR	
*4-374-846-01	COVER, CAPACITOR, CAP TYPE			FB1	*1-508-765-00	3P PLUG (M)	
*4-374-846-11	COVER, CAPACITOR, CAP TYPE			FB2	*1-564-454-11	PLUG, CONNECTOR (2.5MM) 6P	
	CAPACITOR					IC	
C606 $\Delta$ A.1-130-808-61	FILM	0.22MF	10%	400V	IC611	8-759-937-59	IC MB3759
C607 $\Delta$ A.1-161-953-51	CERAMIC	0.0047MF	20%	400V	IC612	8-759-729-03	IC NJM2903D
C608 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V		COIL	
C609 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V	L611	1-408-412-00	MICRO INDUCTOR 18UH
C610 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V	L612	1-407-365-00	COIL, CHOKE
C611 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V		TRANSISTOR	
C612 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V	Q610	8-729-802-07	TRANSISTOR 2SD1403-CA
C613 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V	Q611	8-729-177-43	TRANSISTOR 2SD774
C614 1-161-742-00	CERAMIC	0.0022MF	20%	400V	Q612	8-729-177-43	TRANSISTOR 2SD774
C615 $\Delta$ A.1-161-742-51	CERAMIC	0.0022MF	20%	400V	Q613	8-729-245-83	TRANSISTOR 2SC2458
C616 1-123-581-00	ELECT	100MF	20%	400V	Q614	8-729-245-83	TRANSISTOR 2SC2458
C617 1-136-173-00	FILM	0.47MF	5%	50V		RESISTOR	
C618 1-123-356-00	ELECT	10MF	20%	25V	R611	1-206-676-00	METAL OXIDE 3.3K 5% 2W F
C619 1-108-587-00	MYLAR	0.022MF	10%	50V	R612	1-247-155-00	CARBON 10K 5% 1/4W
C620 1-161-328-00	CERAMIC	0.0047MF	30%	50V	R613	1-244-929-00	CARBON 220K 5% 1/2W
C621 1-123-356-00	ELECT	10MF	20%	16V	R614	1-247-807-00	CARBON 100 5% 1/6W
C622 1-124-440-11	ELECT	3300MF	20%	25V	R615	1-247-827-00	CARBON 680 5% 1/6W
C623 1-108-833-00	MYLAR	0.0047MF	10%	50V	R616	1-247-034-00	CARBON 220 5% 1/8W F
C624 1-123-356-00	ELECT	10MF	20%	25V	R617	1-247-847-00	CARBON 4.7K 5% 1/6W
C625 1-106-180-00	MYLAR	0.0022MF	10%	50V	R618	1-247-847-00	CARBON 4.7K 5% 1/6W
C626 1-102-074-00	CERAMIC	0.001MF	10%	50V	R619	1-247-865-00	CARBON 27K 5% 1/6W
C627 1-123-356-00	ELECT	10MF	20%	16V	R620	1-247-853-00	CARBON 8.2K 5% 1/6W
C628 1-123-356-00	ELECT	10MF	20%	25V	R621	1-247-847-00	CARBON 4.7K 5% 1/6W
C629 1-123-381-00	ELECT	2.2MF	20%	50V	R622	1-249-421-11	CARBON 2.2K 5% 1/6W
C630 1-123-330-00	ELECT	22MF	20%	16V	R623	1-247-879-00	CARBON 100K 5% 1/6W
C631 1-123-335-00	ELECT	330MF	20%	25V	R624	1-249-421-11	CARBON 2.2K 5% 1/6W
C632 1-130-806-00	FILM	0.1MF	10%	400V	R625	1-213-135-00	METAL OXIDE 220 5% 1W F
C633 1-102-074-00	CERAMIC	0.001MF	10%	50V			
	DIODE				R627	1-215-443-00	METAL 8.2K 1% 1/6W
D610 8-719-300-63	DIODE LB-156				R628	1-215-451-00	METAL 18K 1% 1/6W
D611 8-719-924-06	DIODE ERC24-06S				R629	1-215-447-00	METAL 12K 1% 1/6W
D612 8-719-102-74	DIODE RD6.2E-N2				R630	1-247-849-00	CARBON 5.6K 5% 1/6W
D613 8-719-901-93	DIODE V19E				R631	1-247-849-00	CARBON 5.6K 5% 1/6W
D614 8-719-911-19	DIODE ISS119				R632	1-215-429-00	METAL 2.2K 1% 1/6W
D615 8-719-908-20	DIODE ERC88-009				R633	1-215-401-11	METAL 150 1% 1/6W
D616 8-719-102-90	DIODE RD10E-N2				R634	1-215-429-00	METAL 2.2K 1% 1/6W
D617 8-719-102-74	DIODE RD6.2E-N2				R635	1-247-855-00	CARBON 10K 5% 1/6W
D618 8-719-911-19	DIODE ISS119				R636	1-247-855-00	CARBON 10K 5% 1/6W
D619 8-729-101-31	TRANSISTOR N13T1				R637	1-247-879-00	CARBON 100K 5% 1/6W
D620 8-719-911-19	DIODE ISS119				R638	1-247-847-00	CARBON 4.7K 5% 1/6W
D621 8-719-911-19	DIODE ISS119				R639	1-247-843-00	CARBON 3.3K 5% 1/6W
D622 8-719-911-19	DIODE ISS119				R640	1-247-855-00	CARBON 10K 5% 1/6W

## NOTE:

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FB Q

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R641	1-249-421-11	CARBON	2.2K 5% 1/6W	C219	1-123-356-00	ELECT	10MF 20% 25V
R642	1-247-867-00	CARBON	33K 5% 1/6W	C220	1-123-356-00	ELECT	10MF 20% 25V
R643	1-247-847-00	CARBON	4.7K 5% 1/6W	C221	1-101-006-21	CERAMIC	0.047MF 50V
R644	1-247-847-00	CARBON	4.7K 5% 1/6W	C222	1-123-321-00	ELECT	220MF 20% 16V
R645	1-247-034-00	CARBON	220 5% 1/8W F	C223	1-123-321-00	ELECT	220MF 20% 16V
R646	1-247-825-00	CARBON	560 5% 1/6W	C224	1-123-333-00	ELECT	100MF 20% 16V
R647	A-205-636-11	CEMENTED	3.3 5% 5W F	C225	1-123-318-00	ELECT	33MF 20% 16V
R648	1-213-160-00	METAL OXIDE	27K 5% 1W F	C226	1-123-318-00	ELECT	33MF 20% 16V
R649	1-213-160-00	METAL OXIDE	27K 5% 1W F	C228	1-102-129-21	CERAMIC	0.01MF 10% 50V
R650	1-247-847-00	CARBON	4.7K 5% 1/6W	C229	1-123-380-00	ELECT	1MF 20% 50V
R651	1-247-831-00	CARBON	1K 5% 1/6W	C230	1-102-824-00	CERAMIC	470PF 5% 50V
	VARIABLE RESISTOR			C231	1-101-004-00	CERAMIC	0.01MF 50V
RV610	1-230-231-11	RES, ADJ, CERAMIC	CARBON 2.2K	C232	1-123-330-00	ELECT	22MF 20% 50V
RV611	1-230-230-00	RES, ADJ, CERAMIC	CARBON 1K	C240	1-102-822-00	CERAMIC	390PF 5% 50V
						DIODE	
				D201	8-719-100-65	DIODE RD12E-B2	
				D202	8-719-911-19	DIODE ISS119	
RY610	1-515-559-11	RELAY, POWER		D203	8-719-100-65	DIODE RD12E-B2	
				D204	8-719-911-19	DIODE ISS119	
				D205	8-719-911-19	DIODE ISS119	
						IC	
T609	A-1-421-760-11	LFT		IC201	8-752-006-10	IC CX20061	
T610	A-1-421-760-11	LFT		IC202	8-759-400-01	IC AN5250	
T611	A-1-448-146-11	TRANSFORMER, CONVERTER (S.R.T.)					
T612	A-1-437-173-11	TRANSFORMER, DRIVE					
						CONNECTOR	
				Q1	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
				Q2	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
				Q3	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
				Q4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
				Q5	1-562-212-00	CONNECTOR, DIN 6P	
				Q6	1-536-899-11	TERMINAL BOARD, INPUT/OUTPUT	
						TRANSISTOR	
				Q201	8-729-245-83	TRANSISTOR 2SC2458	
				Q202	8-729-245-83	TRANSISTOR 2SC2458	
				Q203	8-729-245-83	TRANSISTOR 2SC2458	
				Q204	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q205	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q206	8-729-177-43	TRANSISTOR 2SD774	
				Q207	8-729-245-83	TRANSISTOR 2SC2458	
				Q208	8-729-245-83	TRANSISTOR 2SC2458	
						RESISTOR	
				R201	1-215-394-00	METAL	75 1% 1/6W
				R202	1-247-131-00	CARBON	1K 5% 1/4W
				R203	1-247-875-00	CARBON	68K 5% 1/6W
				R204	1-247-873-00	CARBON	56K 5% 1/6W
				R205	1-247-831-00	CARBON	1K 5% 1/6W
				R206	1-247-807-00	CARBON	100 5% 1/6W
				R207	1-247-875-00	CARBON	68K 5% 1/6W
				R208	1-215-394-00	METAL	75 1% 1/6W

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Q C DC

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R209	1-247-131-00	CARBON	1K 5% 1/6W	C704	1-123-933-00	ELECT	10MF 20% 160V
R210	1-247-873-00	CARBON	56K 5% 1/6W			<u>COIL</u>	
R211	1-247-807-00	CARBON	100 5% 1/6W	L701	1-407-704-00	MICRO INDUCTOR 82UH	
R212	1-247-831-00	CARBON	1K 5% 1/6W	L702	1-407-709-00	MICRO INDUCTOR 220UH	
R213	1-247-831-00	CARBON	1K 5% 1/6W			<u>NEON LAMP</u>	
R214	1-247-799-00	CARBON	47 5% 1/6W	NE702	1-519-013-13	DISCHARGE TUBE	
R215	1-247-849-00	CARBON	5.6K 5% 1/6W	NE703	1-519-013-13	DISCHARGE TUBE	
R216	1-247-843-00	CARBON	3.3K 5% 1/6W	NE704	1-519-013-13	DISCHARGE TUBE	
R217	1-247-855-00	CARBON	10K 5% 1/6W	NL701	1-519-108-XX	LAMP, NEON ASSY	
R218	1-247-893-00	CARBON	390K 5% 1/6W			<u>TRANSISTOR</u>	
R219	1-247-889-00	CARBON	270K 5% 1/6W	Q701	8-729-326-11	TRANSISTOR 2SC2611	
R220	1-247-889-00	CARBON	270K 5% 1/6W	Q702	8-729-326-11	TRANSISTOR 2SC2611	
R221	1-247-855-00	CARBON	10K 5% 1/6W	Q703	8-729-326-11	TRANSISTOR 2SC2611	
R222	1-247-855-00	CARBON	10K 5% 1/6W			<u>RESISTOR</u>	
R223	1-247-893-00	CARBON	390K 5% 1/6W	R701	1-202-842-11	SOLID	220K 10% 1/2W
R224	1-247-889-00	CARBON	270K 5% 1/6W	R702	1-202-719-00	SOLID	1M 10% 1/2W
R225	1-247-889-00	CARBON	270K 5% 1/6W	R703	1-202-838-00	SOLID	100K 10% 1/2W
R226	1-247-831-00	CARBON	1K 5% 1/6W	R706	1-213-156-00	METAL OXIDE	12K 5% 1W F
R227	1-249-421-11	CARBON	2.2K 5% 1/6W	R707	1-247-815-00	CARBON	220 5% 1/6W
R228	1-247-841-00	CARBON	2.7K 5% 1/6W	R709	1-202-822-00	SOLID	2.2K 10% 1/2W
R229	1-247-799-00	CARBON	47 5% 1/6W	R710	1-213-156-00	METAL OXIDE	12K 5% 1W F
R230	1-246-981-00	CARBON	4.7 5% 1/8W F	R711	1-202-822-00	SOLID	2.2K 10% 1/2W
R232	1-247-823-00	CARBON	470 5% 1/6W	R712	1-247-815-00	CARBON	220 5% 1/6W
R233	1-247-823-00	CARBON	470 5% 1/6W	R714	1-213-156-00	METAL OXIDE	12K 5% 1W F
R234	1-247-879-00	CARBON	100K 5% 1/6W	R715	1-202-822-00	SOLID	2.2K 10% 1/2W
R235	1-247-807-00	CARBON	100 5% 1/6W	R716	1-247-815-00	CARBON	220 5% 1/6W
R236	1-247-849-00	CARBON	5.6K 5% 1/6W			<u>VARIABLE RESISTOR</u>	
R237	1-247-876-00	CARBON	75K 5% 1/6W	RV701	1-230-164-21	RES, ADJ, METAL GLAZE	55M
R238	1-247-849-00	CARBON	5.6K 5% 1/6W			<u>SPARK GAP</u>	
R239	1-247-876-00	CARBON	75K 5% 1/6W	SG701	1-519-063-XX	DISCHARGING GAP	
<u>SWITCH</u>							
S1	1-553-725-00	SWITCH, SLIDE					
S2	1-553-725-00	SWITCH, SLIDE					
*****							
*A-1330-584-A	C BOARD, COMPLETE			*1-614-498-11	DC BOARD		
	*****				*****		
1-526-691-00 SOCKET, CRT							
<u>CONNECTOR</u>							
C1	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C890	1-123-332-00	ELECT	47MF 20% 16V
C2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C891	1-130-794-00	FILM	0.22MF 10% 250V
C3	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C892	1-130-800-00	FILM	2.2MF 10% 250V
C4	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P					
<u>CAPACITOR</u>							
C701	1-102-223-00	CERAMIC	0.0047MF 10%	2KV	D890	8-719-102-74	DIODE RD6.2E-N2
C703	1-102-050-00	CERAMIC	0.01MF	500V	D891	8-719-000-28	THYRISTOR CRO2AM-8
					D892	8-719-911-55	DIODE U05G
<u>CAPACITOR</u>							

DC	DD	DB	DA
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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
		<u>CONNECTOR</u>		C807	1-123-356-00	ELECT	10MF 20% 16V
DC1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		C808	1-123-382-00	ELECT	3.3MF 20% 50V
DC2	*1-560-278-00	PLUG, CONNECTOR 3P		C809	1-123-380-00	ELECT	1MF 20% 50V
		<u>TRANSISTOR</u>		C810	1-161-059-00	CERAMIC	0.047MF 10% 50V
Q890	8-765-620-00	TRANSISTOR 2SD1015		C811	1-102-121-00	CERAMIC	0.0022MF 10% 50V
		<u>RESISTOR</u>		C812	1-123-380-00	ELECT	1MF 20% 50V
R895	1-202-846-00	SOLID	470K 1/2W	C813	1-123-356-00	ELECT	10MF 20% 16V
R896	1-247-871-00	CARBON	47K 5% 1/6W	C814	1-124-539-51	ELECT	330MF 20% 35V
R898	1-247-817-00	CARBON	270 5% 1/6W	C815 <b>A</b> 1-129-706-51	FILM	0.0022MF 10% 630V	
R899	1-247-839-00	CARBON	2.2K 5% 1/8W	C816 <b>A</b> 1-130-581-11	FILM	0.033MF 3% 600V	
R900	1-246-517-25	CARBON	68K 5% 1/4W	C817 <b>A</b> 1-129-706-51	FILM	0.0022MF 10% 630V	
				C820	1-123-335-00	ELECT	330MF 20% 25V
				C822	1-102-030-00	CERAMIC	330PF 10% 500V
				C823	1-123-347-00	ELECT	330MF 20% 35V
				C824 <b>A</b> 1-102-030-51	CERAMIC	330PF 10% 500V	
*****							
		*1-615-160-11	DD BOARD	C825	1-123-933-00	ELECT	10MF 20% 160V
			*****	C826	1-123-356-00	ELECT	10MF 20% 25V
		*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P	C828	1-130-781-00	FILM	0.22MF 10% 100V
				C830	1-123-356-00	ELECT	10MF 20% 16V
				C831	1-108-591-00	MYLAR	0.033MF 10% 50V
				C832	1-108-591-00	MYLAR	0.033MF 10% 50V
C870	1-161-328-00	CERAMIC	0.0047MF 30% 50V	C833	1-123-380-00	ELECT	1MF 20% 50V
		<u>IC</u>		C834	1-136-173-00	FILM	0.47MF 5% 50V
IC805	8-759-170-12	IC UPC78M12H		C835	1-123-322-00	ELECT	330MF 20% 16V
				C836	1-124-245-00	ELECT	4.7MF 20% 25V
				C837	1-123-379-00	ELECT	0.47MF 20% 50V
				C838	1-108-837-00	MYLAR	0.01MF 10% 50V
				C839	1-108-845-00	MYLAR	0.047MF 10% 50V
				C840	1-102-832-00	CERAMIC	330PF 10% 50V
				C841	1-123-360-00	ELECT	100MF 20% 50V
				C842	1-123-335-00	ELECT	330MF 20% 25V
				C843	1-108-837-00	MYLAR	0.01MF 10% 50V
				C844 <b>A</b> 1-102-030-51	CERAMIC	330PF 10% 500V	
DB1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C845	1-136-337-11	FILM	3.3MF 10% 100V
DB2	*1-564-445-11	PLUG, CONNECTOR (2.5MM) 9P		C846	1-124-245-00	ELECT	4.7MF 20% 25V
		<u>TRANSFORMER</u>		C850	1-123-356-00	ELECT	10MF 20% 25V
T801 <b>A</b> 1-439-358-11	TRANSFORMER ASSY, FLYBACK			C851	1-106-176-00	MYLAR	0.0015MF 5% 50V
				C853	1-106-180-00	MYLAR	0.0022MF 5% 50V
				C854	1-102-529-00	CERAMIC	100PF 5% 50V
				C855	1-123-356-00	ELECT	10MF 20% 16V
				C856	1-102-973-00	CERAMIC	100PF 10% 50V
				C857 <b>A</b> 1-102-038-51	CERAMIC	0.001MF 500V	
				C860	1-123-381-00	ELECT	2.2MF 20% 50V
				C862	1-102-074-00	CERAMIC	0.001MF 10% 50V
				C863	1-123-380-00	ELECT	1MF 20% 50V
		<u>CAPACITOR</u>		C864	1-124-537-51	ELECT	1200MF 20% 35V
C800	1-123-380-00	ELECT	1MF 20% 50V	C866	1-102-074-00	CERAMIC	0.001MF 10% 50V
C801	1-108-599-00	MYLAR	0.068MF 10% 50V	C867	1-101-002-00	CERAMIC	0.0022MF 50V
C802	1-108-837-00	MYLAR	0.01MF 10% 50V			<u>DIODE</u>	
C803	1-108-837-00	MYLAR	0.01MF 10% 50V	D800	8-719-102-74	DIODE RD6.2E-N2	
C804	1-123-369-00	ELECT	4.7MF 20% 25V	D801	8-719-911-19	DIODE 1SS119	
C805	1-123-369-00	ELECT	4.7MF 20% 25V	D803	8-719-300-76	DIODE RH1A	
C806	1-130-868-00	FILM	0.0056MF 5% 50V				

NOTE:

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DA

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D804	8-719-300-76	DIODE RH1A				TRANSISTOR	
D805	8-719-901-95	DIODE V19CSS		Q800	8-729-245-83	TRANSISTOR 2SC2458	
D806	8-719-901-93	DIODE V19E		Q801	8-729-201-62	TRANSISTOR 2SC2555	
D807	8-719-901-93	DIODE V19E		*4-363-404-00	HOLDER, IC; Q801		
D808	8-719-901-93	DIODE V19E		4-363-414-00	SPACER, MICA; Q801		
D809	8-719-911-55	DIODE U05G		Q802	8-729-201-XX	TRANSISTOR 2SC3075	
D810	8-719-911-19	DIODE 1SS119		Q803	8-729-245-83	TRANSISTOR 2SC2458	
D811	8-719-911-19	DIODE 1SS119		Q804	8-729-245-83	TRANSISTOR 2SC2458	
D812	8-719-911-19	DIODE 1SS119		Q805	8-729-245-83	TRANSISTOR 2SC2458	
D813	8-719-911-19	DIODE 1SS119		Q806	8-729-245-83	TRANSISTOR 2SC2458	
D814	8-719-911-19	DIODE 1SS119		Q807	8-729-204-83	TRANSISTOR 2SA1048GR	
D815	8-719-911-19	DIODE 1SS119		Q808	8-729-245-83	TRANSISTOR 2SC2458	
D816	8-719-901-83	DIODE ISS83		Q809	8-729-133-43	TRANSISTOR 2SC2334-K	
D817	8-719-911-19	DIODE 1SS119				RESISTOR	
D818	8-719-911-19	DIODE 1SS119		R800	1-247-855-00	CARBON	10K 5% 1/6W
D819	8-719-911-19	DIODE 1SS119		R801	1-247-850-00	CARBON	6.2K 5% 1/6W
D820	8-719-911-19	DIODE 1SS119		R802	1-247-855-00	CARBON	10K 5% 1/6W
D821	8-719-102-74	DIODE RD6.2E-N2		R803	1-247-877-00	CARBON	82K 5% 1/6W
D822	8-719-103-21	DIODE RD20E-N2		R804	1-247-857-00	CARBON	12K 5% 1/6W
D823	8-719-911-19	DIODE 1SS119		R805	1-247-831-00	CARBON	1K 5% 1/6W
D824	8-719-102-61	DIODE RD4.3E-N1		R807	1-247-851-00	CARBON	6.8K 5% 1/6W
D825	8-719-000-28	THYRISTOR CRO2AM-8		R808	1-247-851-00	CARBON	6.8K 5% 1/6W
D826	8-719-981-00	DIODE ERC81-004		R809	1-247-827-00	CARBON	680 5% 1/6W
D827	8-719-981-00	DIODE ERC81-004		R810	1-247-827-00	CARBON	680 5% 1/6W
		CONNECTOR					
DA1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		R811	1-247-827-00	CARBON	680 5% 1/6W
DA2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R812	1-206-648-00	METAL OXIDE	220 5% 1W F
DA3	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		R813	1-212-360-00	METAL OXIDE	1 5% 1W F
DA4	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		R815	1-247-851-00	CARBON	6.8K 5% 1/6W
DA5	*1-508-765-00	3P PLUG (M)		R816	1-247-855-00	CARBON	10K 5% 1/6W
DA6	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R818	1-247-855-00	CARBON	10K 5% 1/6W
DA7	*1-564-445-11	PLUG, CONNECTOR (2.5MM) 9P		R819	1-215-461-00	METAL	47K 1% 1/6W
DA8	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R820	1-215-449-00	METAL	15K 1% 1/6W
		IC		R821	1-247-879-00	CARBON	100K 5% 1/6W
				R822	1-213-143-00	METAL OXIDE	1K 5% 1W F
IC800	8-759-100-60	IC UPC1377C		R824	1-217-383-00	FUSIBLE	4.7 5% 1/4W F
IC801	8-759-113-78	IC UPC1378H-L		R825	1-210-859-00	CARBON	1.2 5% 1/8W F
IC802	8-759-145-58	IC UPC4558C		R826	1-215-445-00	METAL	10K 1% 1/6W
IC803	8-759-240-30	IC TC4030BP		R827	1-213-149-00	METAL OXIDE	3.3K 5% 1W F
IC804	8-759-345-38	IC HD14538BP		R828	1-213-149-00	METAL OXIDE	3.3K 5% 1W F
		COIL		R829	1-213-149-00	METAL OXIDE	3.3K 5% 1W F
L800	1-408-242-00	MICRO INDUCTOR 10MMH		R830	1-247-855-00	CARBON	10K 5% 1/6W
L802	1-408-403-00	MICRO INDUCTOR 3.3UH		R831	1-247-855-00	CARBON	10K 5% 1/6W
L803	*1-459-370-11	COIL, FERRITE (HLC)		R832	1-247-851-00	CARBON	6.8K 5% 1/6W
L804	*1-459-597-11	COIL, VARIABLE		R833	1-247-863-00	CARBON	22K 5% 1/6W
L805	1-459-403-00	COIL (WITH CORE)		R834	1-247-859-00	CARBON	15K 5% 1/6W
				R835	1-247-855-00	CARBON	10K 5% 1/6W
L806	1-408-423-00	MICRO INDUCTOR 150UH		R836	1-247-871-00	CARBON	47K 5% 1/6W
L807	1-459-595-11	COIL, CHOKE		R837	1-247-831-00	CARBON	1K 5% 1/6W
L810	1-407-365-00	COIL, CHOKE		R838	1-247-824-00	CARBON	510 5% 1/6W
				R839	1-247-852-00	CARBON	7.5K 5% 1/6W
				R840	1-247-863-00	CARBON	22K 5% 1/6W

**NOTE:**

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

DA HA

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark	
R842	1-247-855-00	CARBON	10K	5%	1/6W		RV807	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K		
R843	1-247-865-00	CARBON	27K	5%	1/6W		RV808	1-226-703-00	RES, ADJ, METAL GLAZE	10K		
R844	1-247-817-00	CARBON	270	5%	1/6W							
R845	1-212-368-00	METAL OXIDE	4.7	5%	1W	F						
R846	1-213-138-00	METAL OXIDE	390	5%	1W	F						
R847	1-213-138-00	METAL OXIDE	390	5%	1W	F						
R848	1-213-139-00	METAL OXIDE	470	5%	1W	F						
R849	1-247-848-00	CARBON	5.1K	5%	1/6W							
R850	1-247-855-00	CARBON	10K	5%	1/6W		T800	A.I-437-082-11	HDT			
R851	1-247-855-00	CARBON	10K	5%	1/6W		T802	A.I-437-081-11	TRANSFORMER, CDT			
R852	1-247-819-00	CARBON	330	5%	1/8W	F						
R853	1-247-831-00	CARBON	1K	5%	1/6W							
R855	1-215-434-00	METAL	3.6K	1%	1/6W							
R856	A.1-215-455-31	METAL	27K	1%	1/6W							
R860	1-247-847-00	CARBON	4.7K	5%	1/6W							
R861	1-247-847-00	CARBON	4.7K	5%	1/6W							
R862	1-247-867-00	CARBON	33K	5%	1/6W		C504	1-123-332-00	ELECT	47MF	20%	25V
R863	1-247-831-00	CARBON	1K	5%	1/6W		C505	1-101-004-00	CERAMIC	0.01MF		50V
R864	1-247-879-00	CARBON	100K	5%	1/6W							
R866	1-247-855-00	CARBON	10K	5%	1/6W							
R867	1-215-433-00	METAL	3.3K	1%	1/6W		D502	8-719-911-19	DIODE 1SS119			
R868	1-247-871-00	CARBON	47K	5%	1/6W							
R869	1-247-871-00	CARBON	47K	5%	1/6W							
R870	1-215-469-00	METAL	100K	1%	1/6W							
R871	1-247-895-00	CARBON	470K	5%	1/6W		HA1	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P			
R872	1-247-889-00	CARBON	270K	5%	1/6W		HA2	*1-564-452-11	PLUG, CONNECTOR (2.5MM) 4P			
R873	1-247-831-00	CARBON	1K	5%	1/6W		HA3	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P			
R874	1-247-847-00	CARBON	4.7K	5%	1/6W		HA4	*1-564-451-11	PLUG, CONNECTOR (2.5MM) 3P			
R876	1-215-427-00	METAL	1.8K	1%	1/6W		HA5	*1-564-452-41	PLUG, CONNECTOR (2.5MM) 4P			
R877	1-247-847-00	CARBON	4.7K	5%	1/6W		HA6	*1-564-456-11	PLUG, CONNECTOR (2.5MM) 8P			
R879	1-247-803-00	CARBON	68	5%	1/6W		HA7	*1-564-450-11	PLUG, CONNECTOR (2.5MM) 2P			
R880	1-215-452-00	METAL	20K	1%	1/6W							
R881	A.1-215-459-31	METAL	39K	1%	1/6W							
R882	1-215-441-00	METAL	6.8K	1%	1/6W		Q502	8-729-245-83	TRANSISTOR 2SC2458			
R883	1-247-863-00	CARBON	22K	5%	1/6W		Q503	8-729-245-83	TRANSISTOR 2SC2458			
R884	1-247-860-00	CARBON	16K	5%	1/6W							
R885	1-247-852-00	CARBON	7.5K	5%	1/6W							
R886	1-247-852-00	CARBON	7.5K	5%	1/6W		R512	1-247-863-00	CARBON	22K	5%	1/6W
R888	1-247-847-00	CARBON	4.7K	5%	1/6W		R514	1-247-867-00	CARBON	33K	5%	1/6W
R890	1-247-831-00	CARBON	1K	5%	1/6W		R515	1-247-883-00	CARBON	150K	5%	1/6W
R891	1-247-851-00	CARBON	6.8K	5%	1/6W		R516	1-247-867-00	CARBON	33K	5%	1/6W
R892	1-249-421-11	CARBON	2.2K	5%	1/6W		R517	1-247-887-00	CARBON	220K	5%	1/6W
R893	1-247-837-00	CARBON	1.8K	5%	1/8W	F	R518	1-247-867-00	CARBON	33K	5%	1/6W
R894	1-247-807-00	CARBON	100	5%	1/6W		R519	1-247-873-00	CARBON	56K	5%	1/6W
							R520	1-247-854-00	CARBON	9.1K	5%	1/6W
							R521	1-249-421-11	CARBON	2.2K	5%	1/6W
							R522	1-247-891-00	CARBON	330K	5%	1/6W
							R523	1-247-831-00	CARBON	1K	5%	1/6W
							R524	1-247-879-00	CARBON	100K	5%	1/6W
							R525	1-247-871-00	CARBON	47K	5%	1/6W
							R526	1-247-873-00	CARBON	56K	5%	1/6W
							R527	1-247-881-00	CARBON	120K	5%	1/6W
							R528	1-247-878-00	CARBON	91K	5%	1/6W

## NOTE:

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VM-9020ME

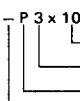
HA HB XA

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R529	1-247-855-00	CARBON	10K 5% 1/6W			MISCELLANEOUS	
R531	1-247-835-00	CARBON	1.5K 5% 1/6W			*****	
		VARIABLE RESISTOR					
RV511	1-230-760-11	RES, VAR, CARBON	1K		A.1-451-265-11	DEFLECTION YOKE (SY-167)	
RV512	1-230-762-11	RES, VAR, CARBON	20K		1-452-032-00	MAGNET, DISK; 10MM Ø	
RV513	1-230-711-11	RES, VAR, CARBON	20K		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
RV514	1-230-711-11	RES, VAR, CARBON	20K		1-452-126-11	MAGNET	
RV515	1-230-710-11	RES, VAR, CARBON	10K		1-507-465-00	JACK, POWER OUTSIDE	
RV516	1-230-710-11	RES, VAR, CARBON	10K		A.1-509-547-11	3P INLET	
RV517	1-226-703-00	RES, ADJ, METAL GLAZE	10K		1-543-171-00	CORE, RING	
RV518	1-230-522-11	RES, ADJ, METAL GLAZE	4.7K	L901	A.1-426-043-12	COIL, DEGAUSSING	
RV519	1-226-774-00	RES, ADJ, METAL GLAZE	47K	S901	A.1-570-201-11	SWITCH, PUSH (AC POWER)(1 KEY)	
				S902	A.1-516-046-11	SWITCH, SLIDE	
				SP901	1-502-509-00	SPEAKER	
				V901	A.8-737-151-05	CRT (A20JKU10X)	
							*****
		THERMISTOR					
TH502	1-800-944-00	THERMISTOR TH-4700					
*1-614-942-11	HB BOARD		*****				
*4-337-424-00	HOLDER (L), LED						
*4-374-809-01	HOLDER (3 GANG), LED						
		DIODE					
D503	8-719-812-31	DIODE TLR123			A.1-551-258-11	CORD, POWER	
D504	8-719-812-32	DIODE TLY123			3-548-372-00	BAG, POLYETHYLENE	
D505	8-719-812-32	DIODE TLY123			3-701-630-00	BAG, POLYETHYLENE	
D506	8-719-812-32	DIODE TLY123			4-374-831-01	HOOD (VF-501)	
D507	8-719-812-32	DIODE TLY123			4-374-842-01	INDIVIDUAL CARTON	
					4-374-848-01	CUSHION (UPPER) (ASSY)	
					4-374-849-01	CUSHION (LOWER) (ASSY)	
					4-482-062-11	MANUAL, INSTRUCTION	
		CONNECTOR					
HB2	*1-564-450-11	PLUG, CONNECTOR (2.5MM) 2P					
		SWITCH					
S505	1-554-118-00	SWITCH, PUSH (1 KEY)					
S506	1-554-118-00	SWITCH, PUSH (1 KEY)					
S507	1-554-118-00	SWITCH, PUSH (1 KEY)					
S508	1-554-118-00	SWITCH, PUSH (1 KEY)					
S509	1-554-118-00	SWITCH, PUSH (1 KEY)					
		*****					
*1-614-496-11	XA BOARD		*****				
*4-337-424-00	HOLDER (L), LED						
		DIODE					
D680	8-719-812-33	DIODE TLG123A					

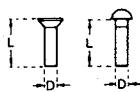
NOTE:

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

## HARDWARE NOMENCLATURE

Screw:   
 - P 3 x 10  
 L: Length in mm  
 D: Diameter in mm  
 Type of head  
 Indicated slotted-head only.

Unless otherwise indicated, it means cross-recessed head (Phillips type).



Nut, Washer, Retaining ring:

 N 3  
 Diameter of usable screw or shaft  
 Reference designation

Reference Designation	Shape	Description	Remarks
<b>SCREWS</b>			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
<b>SELF-TAPPING SCREWS</b>			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
<b>SET SCREWS</b>			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
<b>NUT</b>			
N		nut	
<b>WASHERS</b>			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
<b>RETAINING RINGS</b>			
E		retaining ring	
G		grip-type retaining ring	

# PVM-9020ME

**SONY®  
SERVICE MANUAL**

**AEP Model  
Chassis No. SCC-640A-A**

## SUPPLEMENT

File this supplement with the service manual.

### INTRODUCTION

Parts number modification of variable resistor.

About parts No. 1-614-941-14 of HA board, after that the shapes of variable resistors have modified, so maintain by following variable resistors.

 :Indicates modification portion

### SECTION 6 ELECTRICAL PARTS LIST

Page 64

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R529	1-247-855-00	CARBON	10K 5% 1/6W			MISCELLANEOUS	*****
R531	1-247-835-00	CARBON	1.5K 5% 1/6W			△ 1-451-265-1 DEFLECTION YOKE (SY-167)	
<b>VARIABLE RESISTOR</b>							
RV511	1-238-968-11	RES, VAR, CARBON	1K		1-452-032-00	MAGNET, DISK; 10MM Ø	
RV512	1-238-971-11	RES, VAR, CARBON	20K		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
RV513	1-238-972-11	RES, VAR, CARBON	20K		1-452-126-11	MAGNET	
RV514	1-238-972-11	RES, VAR, CARBON	20K		1-507-465-00	JACK, POWER OUTSIDE	
RV515	1-238-970-11	RES, VAR, CARBON	10K				
RV516	1-230-710-11	RES, VAR, CARBON	10K		△ 1-509-547-11 3P INLET		
RV517	1-228-994-00	RES, ADJ, METAL GLAZE	10K		1-543-171-00	CORE, RING	
RV518	1-228-993-00	RES, ADJ, METAL GLAZE	4.7K		L901 △ 1-426-043-12 COIL, DEGAUSSING		
RV519	1-228-996-00	RES, ADJ, METAL GLAZE	47K		S901 △ 1-570-201-11 SWITCH, PUSH (AC POWER) (1 KEY)		
<b>THERMISTOR</b>							
TH502	1-800-944-00	THERMISTOR TH-4700			S902 △ 1-516-046-11 SWITCH, SLIDE		
					SP901 1-502-509-00	SPEAKER	
					V901 △ 8-737-151-05	CRT (A20JKU10X)	
					*****		



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**Sony Corporation  
B&I Systems Company**

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